THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

AUGUST, 1899.

## THE HEALTH OF THE PEOPLE.

THAT "prevention is better than cure" is now being much more fully understood and acted upon than in bygone days, and there is no doubt that preventive medicine will be the most important subject to the various classes of students of medicine. Our knowledge of preventive medicine, in addition to our insular position, assists us greatly in keeping our people and our animals free from many diseases which are all too common in other parts of the world—such diseases as cholera bubonic disease, and smallpox in man, rinderpest and foot-and-mouth disease in cattle, pox in sheep, rabies in the dog, and so on. With this knowledge before us, it behoves us to perfect as far as possible not only our knowledge of preventive medicine, but our modes of practising it. The essentials of the maintenance of health are absence of disease germs, correct feeding, and proper sanitation. If these, then, are the essentials of health, let us consider how to go about obtaining them. I would suggest that there be in each large town a Bureau of public health, and that it should consist of the medical officer of health as president, a chief sanitary inspector, a chief veterinary inspector, and a chief foods' inspector—all of these with efficient staffs under them. In addition to these, it should be imperative that every medical man in the town should report to the bureau every case of infectious disease occurring in his practice, and also that every veterinary surgeon should report to the bureau every case of disease in any of the lower animals which might be transmitted to man. With such a staff the medical officer of health of a city would be able to ensure good health to the people. It is unnecessary to detail the duties of these various bodies; they are sufficiently well-known. For instance, if a case of scarlet fever were reported

by a medical practitioner to the bureau, the sanitary inspector with his staff would at once proceed to disinfect the premises to prevent any further spread of the disease, and also find out the source of the infection. If the milk were suspected, then the veterinary staff would examine the dairies from which the milk in the district came, and find out if any persons recently suffering from the disease had been in the byres.

A case of glanders might occur in a man—the veterinary staff would endeavour to trace the horse from which the disease was obtained, and then would have to endeavour to find out all horses which might have been in contact. The sanitary staff would disinfect the neighbourhood. With such an arrangement there would be no overlapping of work. There should be no friction. If a member of the staff—say a sanitary inspector—observed something which concerned another staff—say the veterinary staff, and for an example say a sick cow—he could report it to his chief (sanitary), who would report it to the Bureau, and the veterinary staff would attend to it.

What I am particularly anxious to impress is the necessity of having distinct and independent sections of the Bureau for the various duties to be performed. It is absurd to say that an inspector of nuisances should also be an inspector of cows and pigs, or that a medical man is a better judge of disease in the lower animals than a veterinary surgeon. I contend that a jack-of-all-trades is worse than nothing, and am of opinion that men are not common who have even a sufficiency of knowledge to be sanitary inspectors, food inspectors, and veterinary inspectors; and even if such men were common, it would be impossible for them to attempt to perform such various duties efficiently.

It has recently been officially suggested in England that in future candidates for appointments as inspectors of nuisances would have a greater chance of appointment if they showed a good knowledge of animals in health and disease during life and after death—in other words, that if they were veterinary surgeons they would be most eligible. I maintain that an inspector of nuisances can only be a member of the sanitary staff, and his duties should be confined solely to the searching for nuisances and seeing to their abolition. Nothing is more repugnant than to think that a man fresh from slum inspection should turn his attention to the meat we are about to eat, particularly as we know that fresh meat is so very easily contaminated. I cannot too strongly express my conviction that the sanitary supervision and the veterinary

supervision are two distinct departments in public health, and that both of these departments should be directly responsible to the medical officer of health, who has the sole responsibility. The fact seems to be overlooked that people, when ill, generally send for the doctor, and more especially if they fear an infectious disease. In this proposed scheme the medical profession would constitute a medical staff under the medical officer of health; but things are very different with the lower animals. If their owners suspect any disease which may cause them pecuniary loss and a visitation from the inspectors, in many cases they try to conceal such a disease as long as possible, and also to surreptitiously remove the animal from their premises, and it is generally when there is no fear of the law that a veterinary surgeon is sent for. It will thus be seen that there is need for a special veterinary staff for such purposes in addition to the inspection of meat.

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## PELTING THE PROFESSION.

I, HARRY THOMPSON, Aspatria, right here own up to some of the charges named by "Jabez" in the July number of the VETERINARY JOURNAL.

"Jabez" must be greatly indebted to a fertile imagination for his facts; I challenge him to show where I have "severely taken to task any one of the professional witnesses"—except Mr. Elphick—"for the prosecution in the Carlisle case." I say again that the prosecution would never have been had Mr. Elphick done as a member of the council ought to have done—*i.e.*, consulted Mr. Hewson respecting the true merits of the case, instead of listening to and giving an opinion on third-hand evidence from a prosecuting inspector.

*Charge 1st.*—I was for three years a member of the council, but on seeking re-election I got the rightabout-face, quick march. As I got my discharge in good company I was not at all displeased, quite the contrary, as I found it rather a costly honour to travel between 600 and 700 miles four or five times a year and pay my own expenses.

*Charge 2nd.*—I have had the audacity to write a book, "Thompson's Elementary Veterinary Lectures." (Oh, would mine enemy write a book!) "Jabez's" imagination must be immense. He says: "This book I know to my cost has a large circulation in the North of England and the South of Scotland." This is news indeed; thanks for the advertisement, as I had no idea my simple production was

in such request; yet, strange to say, the printer's record does not tally with "Jabez's" statement! And again, I was totally unaware that there was a member of our profession who had such an extensive range of practice in the North of England and the South of Scotland! But, "Jabez"—

> It is to the pen and press we mortals owe
> Almost all we learn and almost all we know.

Does "Jabez" forget that all the veterinary books written are open for sale to the layman who cares to buy them as well as to the profession?

I have before me Baillière, Tindall & Co.'s catalogue of veterinary works, showing between 60 and 70 different writers on veterinary subjects alone; and this is only one publishing company. If writing books be "unprofessional conduct," then it is pleasing to know that I am in very big company.

But stay! I have just paid about the price of a very good horse for new plates—not pictures this time—for the second edition of my book, now in the hands of the printer. This, no doubt, will make "Jabez's" "tender part—the pocket, to wit" squirm.

*Charge 3rd.*—Yes! I stand guilty of lecturing on veterinary matters to students attending an agricultural college. The Royal Agricultural Society of England, as well as the Highland and Agricultural Society of Scotland, hold examinations in scientific subjects pertaining to agriculture once a year: one of the subjects is on veterinary matters, and if I did not do the work some one else would—perhaps "Jabez"; and the students attending these lectures are examined by some of the best professors we have in the profession; and, what is more, the best clients I have, which no doubt can be borne out by others, are gentlemen who have had a good training at agricultural and other colleges—there is no quackery about them; their little knowledge is a danger signal. They say to themselves: "We have no knowledge of this case, and we know very little about the action of drugs, but we know it is dangerous to tinker with cases, and we'll send at once for the veterinary attendant." It is the ignorant know-all that is to be feared, not the educated man; as the more a man knows the less he thinks he knows. If lecturing at agricultural colleges be "pelting stones," then I think I am again in goodly company.

*Charge 4th.*—Yes, guilty once more, of writing to agricultural and other papers and journals.

But I fancy "Jabez" himself will not be innocent in this

respect—he surely must have a very limited practice, is a young practitioner, or a poor observer, if he has not found out before this that amongst people generally there is a great desire to try some remedial agent in cases of sickness, be it man or beast, before calling in the medical attendant; and I hold that writing and answering simple questions tend more to promote the interests of the profession than otherwise—it prevents the injurious use of so much quack medicine, now so extensively advertised all over the world; and if the profession were made up of men like "Jabez" only (who appears to be a pocket-hunter), the manufacturers of patent horse and cattle medicines, and spiced cattle foods, with their books, charts, pamphlets, and stands in agricultural show-yards, with their whiskies and sodas, biscuits and cheese, would have it all their own way; but I think a sinner in last week's *Veterinary Record* gave "Jabez" plenty of matter for reflection. Educate the public.

But I am guilty of another charge—what a wicked man!—not named by "Jabez," because I think he is a bit guilty himself—that is, I have lectured for the county councils of Cumberland, Westmorland, and Lancashire; and I consider these addresses were not only a great benefit to the farrier, but also to our profession, as with diagrams and specimens I showed in as simple a way as possible how delicately and strangely the body was made, and how dangerous it was to tinker with the health of animals, the construction of whose bodies they knew nothing, and to pour drugs, that they knew less about, down the poor animal's throat. If this be "pelting stones" and "unprofessional conduct," then I am guilty and ready to have my name removed from the register as a member of the profession, on the condition that all who have done likewise retire with me. But wait, Judas—beg pardon, "Jabez"—until Ireland gets a college of her own, obtains a charter of her own, has her own standard of teaching and examining board, and subsidised by the British Government—then the British V.S. will have to compete with lower (educational) grades of men than himself. Then what will become of our *alma maters* that are not subsidised by the Government?

I had decided not to notice "Jabez's" remarks until I read "A Sinner's" letter in the *Veterinary Record;* but, after all, as the late Dan O'Connell once said, "Sometimes the insignificance of the accuser is lost in the malignity of the accusation, and one is compelled to take up the pen to combat the innuendoes of one who shields himself under a *nom-de-plume.*"

## ROYAL COLLEGE OF VETERINARY SURGEONS.

*July Examinations, London.*

AT meetings of the Board of Examiners, held on and between July 6th for the Written Examination, and July 10th to July 13th for Oral and Practical Examination, the following gentlemen passed their final examination, and were admitted members of the Royal College of Veterinary Surgeons:—

Mr. A. M. Brodie.
*J. Cane.
*H. S. Elphick.
H. W. L. Fernandes.
J. L. Frood.
J. J. Garside.
*W. G. Girvan.
E. A. Hudson.
G. Lockwood.
J. Lee.
*J. McIlvenna.
J. D. Maguire.
W. R. Neale.
Mr. J. H. Poles.
R. A. Plunkett.
D. J. Quinlan.
D. H. Rait.
*C. E. Rix.
C. Roberts.
*A. Robb.
C. M. Sharpe.
*J. J. B. Tapley.
J. M. Tate.
†G. H. Wooldridge.
W. R. Kennedy.
S. G. Chellew.
Mr. R. C. Baxter.

The following passed their third examination:—

Mr. D. A. Aitchison.
*H. H. Aldred.
G. H. Broad.
*P. V. Beatty.
P. F. B. Bassett.
*G. H. Barber.
*J. Chalmers.
E. Child.
H. Cooper.
F. Crossley.
*J. A. Dixon.
*E. S. Gillett.
H. Greenfield.
*K. Hewlett.
The Kumar Shir Jethiji.
Mr. A. Leaning.
F. E. Mason.
H. A. Reid.
R. Stokoe.
C. E. Steel.
J. T. Share-Jones.
H. Thackeray.
C. Tyler.
*R. J. Collins.
G. Tucker.
L. M. Verney.
*E. J. Wadley.
C. W. Wilson.

Marked thus * passed with 2nd Class Honours.
,, ,, † ,, ,, 1st Class Honours.

The following passed their second examination :—

*Mr. J. Adamson.
†J. T. Angwin.
*E. P. Argyle.
*J. R. Baxter.
*G. S. Bruce.
W. H. Bradley.
W. H. Chase.
J. L. Cooper.
D. R. Davis.
*W. H. Edwards.
*H. H. S. George.
L. G. Gryspeerdt.
T. Haigh.
*J. Harrison.
*A. W. B. Hodgson.
Mr. J. Hobday.
*H. S. Howard-Jones.
*H. D. Jones.
*A. Littlejohn.
*E. S. Oliver.
*W. T. Olver.
†R. Paine.
†S. F. G. Pallin.
*E. M. Perry.
†F. W. Robards.
*R. J. Sargent.
A. G. Saunders.
*W. E. Schofield.
*E. C. Webb.
*S. J. Young.
F. Hopkin.

The following passed their first examination :—

*Mr. S. Dodd.
C. Foster.
T. S. Green.
*A. Goodall.
*J. R. Godbold.
*H. E. Gibbs.
*W. N. Jürgenson.
W. C. C. Radcliffe.
A. W. V. Sewell.
C. H. Sheather.
*H. X. Turnbull.
Mr. W. P. Loft.
*L. M. Magee.
*G. P. Male.
*J. O. Muntz.
H. Newton
G. E. Owen.
F. O. Parsons.
G. Sutton.
P. G. Short.
C. W. Townsend.
W. G. Wragg.
Mr. A. H. Watson.

ARTHUR WM. HILL, *Secretary.*

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## Army Veterinary Department.

Vet.-Lieut.-Colonel W. S. Adams arrived from India on July 10th, on six months' sick leave of absence.

Vet.-Lieutenants J. Moore, W. D. Smith, and G. M. Williams embarked for South Africa on July 15th.

† 1st Class honours, * 2nd Class honours.

# Editorial.

## ERIN GO BRAGH.

On Monday, 24th July, the Agriculture and Technical Instruction (Ireland) Bill was read a third time.

Such is the announcement that appeared in the summaries of business transacted in the House of Commons, as given in our daily newspapers. This is to all intents and purposes a Bill for the establishment of a veterinary college in Dublin.

Is there any justification for the establishment of another veterinary college in the British Isles? Let us calmly review the situation. There are in round numbers 300 veterinary surgeons in Ireland, and if we allow them an average professional life of only 20 years, the deaths will amount to 15 per annum; or, to put the calculation more simply, supposing the body of veterinary surgeons in Ireland were not recruited, and the 15 oldest men died each year, in 20 years the whole body would be extinct. Now, this is a very large mortality, but let us accept it for purposes of discussion. The total number of recruits necessary for Ireland—unless we assume a very great increase in her agricultural prosperity and a greatly increased appreciation of the value of services rendered by veterinary surgeons—is thus, at the most, just 15. If more veterinary surgeons are produced, it is clear that they must, so to speak, go to other markets and enter into competition with the English or Scottish manufactured article, and this is almost inevitable. Leaving, however, out of sight for a moment the glaring injustice of the proceedings, let us take the Irish College from its own point of view. We will presume that 60 students attend the college at Dublin—that is, 15 students attending the first, the second, the third, and the fourth years' courses; we will further presume that these 60 students pay an average fee of £15 15s. per annum, and we then find that a total of £945 is reached per annum. This will, we fancy, be the sole source of income for the college, unless fees are to be charged for animals sent to the college hospital for treatment. So much for the credit side of the account. Now let us take the debit side. There will be salaries to teachers, and if we accept the meagre basis of the only college in Great Britain whose accounts are published, we yet reach a sum of £1,400. To this we must add rates and taxes, gas and water supplies, cost of advertising, stationery,

servants' wages, repairs and upkeep of buildings—say, £600. If we remember that 5 per cent. on £15,000 is £750, we reach the alarming total, on the debit side, of £2,750, or a nett debit of £1,805 per annum. This works out to a fraction over £30 for each student per annum, or £120 for the finished article. It is idle to urge that the sum voted for the college, being public money, will not be chargeable with interest, and that no return of this sort will be expected; the nation does expect value for its money in one shape or other, and this is the way which economists take of stating that well-founded expectation. It is not in the least likely that Parliament, if the funds are Imperial, or the Irish people, if the funds are local, will permit such a waste of energy, and so it will come about that Ireland will begin to flood the market with veterinary surgeons who will enormously increase the existing competition; or rather, alas, the Irish College, being a State-aided institution, will be able to trample upon and crush the life out of all the older institutions. Not only will the Irish College have the advantage of a secure financial basis to stand upon, but it will also enjoy the no less important advantage of the prestige, the glamour that attaches to an Imperial institution. All this will be carefully paraded before the public eye, everything will naturally be spread out in the most attractive way, so as to captivate the fancy of the youthful candidate and win the sober approval of his parents, but it is a deadly blow to British Institutions, which are bound to stagger and reel beneath it: it is a glaring piece of favouritism and a shocking injustice to England and Scotland.

Before proceeding to discuss the matter further, we should like to point out another aspect, hitherto overlooked, of the question. The Irish College will in process of time have students ready for examination, and the question will then be, who is to examine them? We presume that the Royal College of Veterinary Surgeons will maintain its rights as the sole licensing body in the United Kingdom, but will the Royal College feel inclined to send its Board of Examiners to Dublin for the purpose of examining, it may be, a handful of students, whereby it will incur a great deal of expense for very little return? We trust the Royal College will have due regard for economic laws, and insist upon adequate remuneration. If the Government has money to bestow in the way of establishing colleges in Ireland, it will surely provide the means of paying in an adequate manner the only men authorised to examine candidates for the degree of M.R.C.V.S.

If the Government intends to give its support to veterinary teaching in these islands, it ought to do so impartially and liberally. Where, we repeat and repeat, would veterinary science be in this country, and where would it have been these forty years, but for the efforts, ungrudgingly given, but grudgingly rewarded, of private individuals? And now we are threatened with extinction! Let our Imperial rulers bethink themselves before it is too late; let them listen to our humble request to be allowed to live alongside our Irish brethren, long enough at any rate to prove our right to live—our *raison d'être*—or to merit death at the hands of the Government. We most fervently trust that Lord Salisbury, alike in the interests of justice and of prudence, will speedily formulate a scheme of Imperial veterinary education for the whole of the United Kingdom, and so dispel this miserable feeling of uncertainty and jealousy.

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## PRELIMINARY EXAMINATIONS.

THE discussion on this subject at the meeting of the council of the R.C.V.S. merits some notice from the profession. Professor Dewar's motion was far too vague and too involved to be of any value as a piece of legislation. All such motions ought to be expressed as simply and as tersely as possible; there ought to be no possibility of two interpretations, each presenting an equal amount of plausibility. As Professor McFadyean said, if Mr. Dewar's motion had been accepted there would have been endless discussion round the council table as to its meaning and application in the various cases that would crop up from time to time. Of course, it is quite true that the adoption of the stringent regulations for preliminary examinations has been a severe blow to the schools through having greatly reduced the number of students. Now, it would be grossly unfair to those who run the schools to neglect their legitimate demands and allow them to perish from sheer exhaustion. More than that, it would be a crime, for which our fellow-citizens would exact a severe punishment, if we choked off, through pride or selfishness or mere laziness, the supply of candidates for the profession, and took no thought for the morrow. Some of the members of the profession may answer in an off-hand, careless manner, that if a college or two were

to disappear from the face of the earth, no great harm would be done, but rather benefit—it would simply illustrate the law of the survival of the fittest. Perhaps it might, but I am not quite sure that it would. Too much is made of this phrase; men forget that "fittest" very often means, perhaps most frequently means, "coarsest"; they forget, or have never read, the words of a modern philosopher who says: "Civilisation is a tender plant—really a hot-house plant—difficult to rear, easily destroyed." We must be careful, therefore, how we apply economic tests to educational institutions; we may find that the heroic sufferer goes down silent to his grave and leaves us and the world all the poorer for his loss; the survivor may be a deplorable substitute. Of course, the question is how to avert disaster and help those who deserve support. Professor Dewar stated that the standard of examination of the Educational Institute of Scotland had been raised to suit the more exacting requirements of the General Medical Council, and was therefore beyond the limits that were understood and accepted by those who passed the bye-law in 1896, and, inferentially, beyond the reach of our candidates. This, at any rate, was the meaning taken out of his statement by Professor McFadyean, who backed his assertion by an utterance of an officer of the Educational Institute to the effect that "the standard we have set up is ridiculously high," meaning, presumably, that to follow the aerial flight of the medicals is ridiculous. Professor McFadyean is inclined to distrust the Educational Institute's examinations if we are going to entrust them with a lower test for our students—as Professor Dewar seems to desire—and this distrust is based on two arguments. First, the Institute talks—through the mouth of its imprudent officer—somewhat disdainfully of our aspirations, and is therefore to be regarded as a hostile and dangerous body; and, secondly, an examination prepared for veterinary students alone would be untrustworthy, as not being subject to a wide enough criticism. I cannot agree with Professor McFadyean. I do not think we ought to follow the medical profession in all its vagaries, however ardently I should like to share its ambitions and its honours; and, again, I think the Educacational Institute such an honourable body that any examination which it conducted might be accepted as satisfactory, once the standard had been fixed. On the former point I had a talk recently with an old friend who had had considerable experience as a University examiner. He said:

"My opinion, formed after long and painful experience, is that we ought not to expect too high a standard of *literary* attainment from young men commencing a *scientific* career like medicine; with arts and divinity it is quite different—in these we cannot be too rigorous. I am an enthusiastic student of language, especially of modern languages, and I think every student of medicine ought to have a fair acquaintance with German and French, as well as with Latin and Greek in their simpler forms; the importance of being able to read easily *and accurately* the great works written by German and French scientific writers can hardly be over-estimated, and then there is the excellent medical discipline obtained by the study of a foreign language. But it is absurd to trouble a medical student with questions on philology or literature or the minutiæ of grammar; if he can translate correctly, and turn an easy piece of English into decent French or German, it is all you need expect." I could not but agree with my friend.

Mr. Dewar went on to state, as I interpret his words, that the College of Preceptors in England, whose examinations many of our candidates took, had a higher standard for the medicals and a lower—and original—standard for veterinary students and ordinary mortals, thus contrasting with the Scottish body, which had discarded the lower examination. Mr. McFadyean sought to get over the difficulty by proposing that all candidates—Scotsmen as well as Englishmen—should take the Preceptors' examination; or, alternatively, that the Royal College should undertake its own preliminary examinations: otherwise the *status quo antea* of Mr. Dewar's motion was lost, and the *status quo* remains. I am sorry for this in many ways. In the first place I may remark that I am opposed to the undertaking by the R.C.V.S. of its own preliminary examinations, and I am sorry the meeting did not give an authoritative utterance on the point. We are a scientific, not a literary body, and we ought to entrust the examination of our students in preliminary literary subjects to approved learned bodies—to the Universities if possible.

I do not desire to see the preliminary examination made easier, but I have no objection to the division of it into parts. I would even go further, and make the examination more difficult the more it is divided—make a 50 per cent. minimum in all subjects if taken in two parts, 60 per cent. if taken in three, and 65 or 70 if taken in four parts, and I should feel inclined to back the 60 or 65 per cent. man as above indi-

cated against the mediocrity who got through at one trial with 45 per cent. of marks. I do not forget that there are some excellent students, who make brilliant practitioners in after-life, who yet came to college with a very humble educational equipment. But we cannot legislate for the brilliant exceptions—they must be left to take care of themselves, and they will take care of themselves, or somebody else will take care of them and help them over the stile. We must take the average man and insist that he shall at least be able to write English correctly and have a rudimentary knowledge of Latin and Greek. One cannot help feeling a nasty jar when one hears a professional brother talking of "sincup" for syncope in the witness-box. Scientific words are being daily formed from Greek and Latin roots, and these soon become current and familiar; a very elementary knowledge of the old languages enables a man to analyse and understand them, and we might very well insist on this elementary knowledge, however much we may deplore the pedantry that makes it necessary.

When all is said and done, the real, the only cure for our troubles is Government support. I have enlarged on this in another part of the JOURNAL, and will say no more here than that a little paternal advice and assistance is an excellent thing now and then.

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## Notes.

MR. A. S. CAMERON, M.R.C.V.S., Veterinary Inspector to the Board of Public Health, Victoria, has just published the results of his inquiry into the value of tuberculin, and finds that "when tuberculin indicated that tuberculosis was present, tubercular lesions were found, and when tuberculin indicated that tuberculosis was not present, tubercular lesions were not found in *post-mortem* examination.

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Professor SIMS WOODHEAD, on Saturday, 1st July, delivered an address on "Tuberculosis in Relation to Cattle Breeding and Dairy Farming," to the members of the Boroughbridge Agricultural Society:—

Professor Woodhead stated that it must be looked at from the health point of view and the economic point of view. What applied to men applied to animals, and although he had made a special study of this question from the

human point of view, it had been necessary for him to inquire into tuberculosis in animals. Every animal had a definite working life, and anything that interfered with the health of that animal interfered with its working life. It was a great loss to attempt to feed beyond a certain point cattle that were diseased. A diseased animal required more food than a healthy one, and the owner got less out of it. If they had unhealthy cattle for breeding they got unhealthy progeny. Tuberculosis was more important than almost any other disease, because the ravages it made in tissues were perhaps greater than they were in almost any other disease. They knew that among cattle and pigs tuberculosis accounted for a very large number of what was called wasting animals. The disease was infective—it was carried almost directly from animal to animal. It was carried, like any other infectious disease, by a poison or virus which under suitable conditions multiplied rapidly and became dangerous.

*Growth of the Bacillus.*

Compared with scarlet fever, tuberculosis was of slow progress; they lost sight of the danger because the cause had been introduced at a comparatively early date. They did not associate the disease with the cause. They were too apt to ignore tubercular virus because it took long to set up the disease. But it was there, surely, under favourable conditions. Yeast, with warmth and moisture, grew at a very rapid rate. The same thing took place in a tubercle bacillus. The bacillus introduced into an animal or a patient grew with enormous rapidity when it once got favourable conditions. The tubercle bacillus was, in fact, a kind of yeast plant. It would grow in the body, and in growing in the body it would kill the tissue of the lungs, or other parts of the animal's body, and cause the rise of what was called tuberculosis, just as smut killed barley. It was a kind of plant fungus which grew from seeds and from slips. It was constantly propagating. It required a special soil, and its own kind of climate and moisture, just as much as any crops did. It could not, however, flourish on unfavourable conditions. The thing which the bacillus liked was rest. It must be left alone for some time for its growth, for it did not like to be disturbed. It must not have too much light or air. It required rest, darkness, plenty of moisture and warmth in order to grow. The things which it did not like were active vital fluids and tissues. The bacillus could not grow on a healthy body, with light, fresh air, and healthy conditions generally. The tubercle bacillus always bred true. If put in unfavourable conditions it might become weakened, but put in favourable conditions again, it came back to its original state. There could be no tubercle without the tubercle bacillus—the infected virus. Even where the bacillus was present the soil and conditions must be suitable before tuberculosis would be produced. Tuberculosis was not in any sense hereditary, either in human beings or cattle. It was not an hereditary condition. In Denmark it had been found that only a very small proportion of the calves were tuberculous at birth, and all these were so because they had been born of dams that had tuberculosis of the uterus. It had been said that a woman with tuberculosis of the lungs might give birth to a tuberculous child. That was never the case. They never found a cow with tuberculous lungs only giving birth to a tuberculous calf. But if there was tuberculosis of the uterus, they could understand the passage of the direct virus from the dam to the calf.

*Precautions in Breeding.*

It was not necessary to sacrifice valuable breeding stock for the sake of tuberculosis. They might breed from tuberculous animals under certain conditions, but when the tuberculous stock was kept alive the owners must

take the risks, which, however, became less by the exercise of due care. If they bred from a tuberculous cow, the calf should never be seen by the cow, but should be removed as soon as born, and never again come in contact with the mother. He had examined an enormous number of pedigree cattle, some of which were practically tuberculous up to the eyes. He examined one herd in which all the glands in the neck and groin were tuberculous; in some of them the udders were tuberculous. Of these, 92 per cent. were tuberculous in some form or another. These cattle were in fairly good condition, and their owners were breeding from them. He advised that the whole of the calves from these cows should be removed and fed with milk from other cattle, and that they should never be allowed to come into contact with the mothers again; and a great number of these were reared without a trace of tuberculosis, whereas in other cases where similar stock were fed from their mothers, a very large proportion of the calves became tuberculous in a comparatively short time. The same thing could be done with animals of all kinds, and it was a thoroughly economical system. Calves might inherit weakness of tissue, might have the soil prepared to commence with, but they would never take tuberculosis unless they got tuberculous milk on which to feed. They might in time build them up into fairly healthy animals, if they kept the tubercle bacillus away; but if they allowed this bacillus to get into the animal, it at once became a centre of infection for others.

### *How Tuberculosis is Transmitted.*

Tuberculosis was not always conveyed through the milk, however; it was sometimes transmitted through the saliva. In the horse, infection took place not by food, as in the case of the cow and the pig, but by respiration. The particles of dust along with the tubercle bacillus inhaled into the lung set up very frequently tuberculosis of the lung in the horse. An animal attended by a tuberculous groom, who spat about the stable, might take the disease, and in the same way they would find that cats belonging to people who were given to spitting would become tuberculous, whilst even hens became tuberculous in the same way owing to their partiality for sputum. Thus it was evident that they had to tackle the question from a considerable number of standpoints. It was a vicious circle. They had cattle becoming tuberculous from the human subject, and they had the human subject becoming tuberculous from cattle. The more frequently they could break this circle the more sure were they to get rid ultimately of this tuberculosis. Medical men could do very much to break the circle between the individual human subjects. They could also to a certain extent break the circle between the human subject and the animal, but it was very difficult, unless co-operation took place from all sides, to break the circle at other points. Therefore, they had in their hands the possibility of breaking the circle at another point, and helping very materially to get rid of tuberculosis by breaking the chain between animals, and the chain between animals and the human subject. They must root out the bacillus just as they would do away with weeds, and they had to render the soil and conditions unsuitable for its growth either inside or outside the body. The bacillus must be killed by ventilation, fresh air, antiseptics, and cleanliness. Everything known to contain or suspected of containing bacilli should be rendered sterile by cleansing or antiseptics. Wherever there was a single case of tuberculosis in any cowhouse, that case was a centre of infection, and a most dangerous centre. A single tuberculous animal might be a focus from which a whole herd might be infected. If an animal was badly infected it was very bad economy to try and feed it up; it should be killed at once. It took more food, and therefore it was much more expensive to fatten a tuberculous animal than to

fatten a healthy animal. In order to render the conditions unsuitable for the growth of the bacillus they must improve the health of the animal. He was told by some farmers that they could not get a sufficient amount of milk unless they kept their cows sufficiently warm—or, in other words, in badly ventilated byres. If they kept an animal warm it would put on more flesh or give more milk with a smaller amount of food. But there must be ventilation, because every imperfect condition of health interfered with the nutrition of an animal, and what they gained in keeping the animal warm they took off by giving it bad air to breathe.

*Finding Out the Disease.*

How were they to know when they were dealing with tuberculosis? Hitherto it had spread because they had not been able to recognise it. It had been impossible to diagnose tuberculosis until they had got tuberculin. This was an almost invaluable remedy. He had had a wide experience of the use of tuberculin, and he had come to the conclusion that if there was a tubercle nodule in a body tuberculin would find it out. Tuberculosis was a preventable disease if they found out the cause. The tuberculous animals having been found should be isolated. Isolation was not difficult, but was most important. Tuberculous animals, unless separated from healthy stock, were a constant danger to them. A small but complete partition in the cowhouse was sufficient to keep them separated. The healthy and the diseased should never be allowed to go into the same fields. If these simple points were borne in mind and action were taken accordingly, they would have no need to kill off diseased animals at once, and they would very quickly get rid of tuberculosis among cattle. Unless, however, they took these precautions they would be sure to have a certain portion of their cattle becoming tuberculous from the centres of infection that were already there. It was absolutely necessary that they should know which cattle were tuberculous and which were not; this knowledge could be obtained by means of tuberculin. The tuberculin test did not render the milk in any way dangerous. It had been said that milk from tuberculous cattle had been given to pigs without producing any injurious effects. Well, all people did not take tuberculosis, but a certain number—those whose lungs were devitalised—would undoubtedly take it from such milk. He had seen whole herds in which there were perhaps not more than half a dozen healthy cattle. It had been recently proved that between 45 and 50 per cent. of certain herds taken over a large district were tuberculous. The money loss was tremendous. Consequently, if they could get rid of the disease an enormous saving would be effected.

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## Cases.

### BOTHRYOMYCOSIS AFFECTING THE SHOULDERS OF A MARE.

BY W. R. DAVIS, M.R.C.V.S., SWANSEA.

ALL the "lumps" that one finds on the shoulders of horses are by no means alike as to their site, structure, or etiology.

While some are quite superficially placed, others are deep, and for the most part consist of pus formation in the levator humeri muscle. Sometimes, however, the lesion consists originally of suppuration of the lymphatic glands. True, fibrous tumours are occasionally met with here, and some of

these are pigmented (*melano-fibromata*). While most of these growths are doubtless due to the uneven pressure of badly-fitting collars, infection must certainly be blamed in some instances. According to some writers, most of the shoulder tumours which contain branching cavities containing pus, and have fistulæ communicating with the air or running in some direction away from the original growth for some distance, are due to the *Bothryomyces equi*.

The case which I am about to record was due to the action of this parasite. The growths in this mare were quite different to any that I had seen before, in that they were multiple, and that in spite of long rest they seemed to be rather sensitive and inflammatory, instead of being, as they usually are, painless and indolent.

The *Bothryomyces* has received several names—*Micrococcus botryogenous*, *Micrococcus ascoformans*, *Discomyces equi*, etc.

It appears in the form of a micrococcus, about the size of staphylococcus—indeed, authorities say that it is only a form of the latter—but these unite into little rounded primary masses, which again aggregate into zooglea-like collections.

The *Bothryomyces* is best stained by Lœffler's blue.

It has been cultivated, and the inoculation of the culture into the skin produced fibrous nodules in the horse.

The pus from the lesions commonly met with contains often gritty particles, which are masses of bothryomyces. Cover-glass preparations of this, stained with Lœffler's blue, show the microbe very well.

Histologically examined, the tumour is found to be composed of a dense fibrous tissue, almost completely devoid of blood vessels.

A six-year-old bay mare, a collier. She had been working underground for two years, and had had sore shoulders for some time, but for the past three weeks had been doing nothing, as, on account of the pain, she refused to pull. She had been treated by the usual number of quack remedies, and, as no improvement manifested itself, I was sent for. I found the mare had a necklace of tumours. There were four rather large ones, two on each side of the base of the neck, and beside these several smaller growths, varying from a bean to a walnut in size, and seated some on the shoulders, some in front of the neck. In addition to these well-defined lumps the skin of both shoulders was the seat of a number of thickenings, from which the hair had disappeared. They almost suggested a healed pustular eruption. One of the larger tumours had a partially closed fistula, from

which now there was merely a little oozing. This tumour was very sensitive, and from it several thickened lymphatics, prominent under the skin, could be traced. After casting the mare, I proceeded to remove the tumours, dissecting out the larger ones and slitting up and scraping the smaller. There was considerable hæmorrhage, which was controlled by pressure and by tamponing. The after-treatment consisted in the free use of astringents and antiseptics, and the internal administration of potas-iodide. A complete recovery is assured, though the mare will not be fit for work yet for a few weeks. One of the tumours was riddled by purulent channels, and cover-glass preparations from the contents allowed the demonstration of the bothryomyces quite readily.

It is worthy of remark that the stable-keeper who had charge of this mare told me that she had first of all a sore place on the top of the neck, and he thought that the tumours were due to a sort of blood-poisoning, so that the attendant at any rate looked upon the condition as one due to infection rather than to mechanical or traumatic causes.

A quack who had been called in pronounced the mare to be affected with cancer and to be incurable.

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## ON THE TREATMENT OF SCORPION STINGS.

BY W. ROBERTSON, V.S., G.B.V.C., MADRAS, INDIA.

THE case which I am about to detail is quite unique in its way from the fact that such cases, in the first instance, are somewhat common in the tropics, which is the habitat of that formidable kind of black scorpion known as the African scorpion. This differs in character from the ordinary white scorpion, the *Buthos heros* of Koch, in its huge size, measuring, when fully grown, about five to eight inches in length, the sting of which is known to be fatal to man, as from my extensive past, travelling in the Indian districts, I have not known of any instance where a human being, stung by one of these, has recovered.

On the 25th April last, 3 p.m., a fine terrier dog two years old was sent to me with a request that everything possible should be done to save its life, being a great pet of the owner's. On arrival the dog presented the following symptoms:—Panting, tongue hanging out, with a dry, soapy thick, tenacious saliva, edges of tongue livid and somewhat inclined to be purple, with vesicular elevations, conjunctiva highly infected, pupils dilated, lustreless, and somewhat amaurotic; animal restless, behaviour indifferent; symptoms of locomotor

ataxy visible; diarrhœiac motions of a highly offensive odour. On enquiry from the servant, I learnt that the animal was always active, hunting after squirrels, bloodsuckers, and other little vermin, and this afternoon in particular came in howling piteously out of a neighbouring bush. Suspecting snake-bite I made an examination, but could not discern fang marks, presence of blood, or other abrasions. In the absence of these, I concluded that the black scorpion, which frequents such like bushes and damp places, had stung him, and commenced treatment accordingly. In such cases I have always thought it best to try and eliminate the absorbed poison in the first instance from the system, and keep up the circulation. Brandy, two drams, and liq. ext. cascara cœmp., one dram, was given. Before he had swallowed a teaspoonful he was in a dying state, gasping, pupils dilated, and every sign of impending death. Being a pet and a valuable dog, artificial respiration was resorted to with vigour, and electricity by the induced current, and by dint of continued and hard work I was glad he got round. By holding him head downwards, and compressing the abdominal muscles, he vomited about an ounce of glary yellow-tinged fluid, resembling bile in a mixture of the glare of egg. At the same time a quantity of fœculent and bloody matter was evacuated, very much resembling pieces of thin, flabby gut. It was surprising how the dog showed signs of gradual recovery, the sensitiveness of the eyeball returned, breathing more regular but very feeble, and dog very weak and unable to stand, even with help; still comatose, pulse irregular, swing imperceptible.

6 p.m.—Induced electrical currents of increased intensity for about one and a half hours continuously was resorted to, at the end of which time his breathing was harder, and the dog more sensitive to his surroundings, though swallowing was difficult, with perfect loss of motion and sensation. Half a wineglassful of warm beef juice and brandy was, with difficulty, placed on his tongue by drops, which he managed to swallow. 9 p.m.—Electricity was again resorted to, and left to rest for the night. The next morning he was still unable to get up; semi-comatose, eyeballs turned up; did not know his master's voice when called. Continued the electrical currents again, at which he began to cry and try to shift his position—a good sign, showing return of vitality of the sensory centres—took a little more beef juice and brandy. Better this evening, and took half a cupful of beef juice, brandy, and eggs, being fed by quarter teaspoonfuls; was able to walk with help; want

of co-ordination still present. As I was called away by telegram, having to leave by train the same evening to perform an operation 320 miles away, I left instructions with my assistant to continue electricity in a more subdued current. On my return on the 28th morning, he was walking about, and I learnt that he had taken some solid fcod, but there was total blindness and contraction of pupils. The owner was pleased that the dog's life had been spared, but hoped, under my care, he would get his sight back. I do not know the strength, or voltage, of the current given, not having a voltameter or even a galvonometer by me, but the currents given in each instance were from a Spanner's single-celled bichromate battery with the secondary induced current.

Now, what is the cause of the amaurotic condition of the eyes? I have known that snake-bite (cobra di capella), the most venomous of Indian snakes, to be treated by cutaneous injections of strychnia, and the physiological symptoms in the present case were total paralysis of the sensory and motor nerves; the nerve centres were therefore affected by circulation of the poison, the brain taking part in the lesions, as evinced by the hypnotic and comatose state of the patient. I have no hesitation in saying that the retina and optic nerves were affected by this means. Stimulation to the nearest region to the optic thalami by liq. epispastiens — beniodide being dangerous to use here—and gentle electrical currents brought good results within a week; the dog having been discharged perfectly cured, and able to see by the 4th May. I am working at the analysis of this poison, and before long hope to be able to glean some facts as to the chemical relations between cobra poison and the poison of other venomous insects, tarantulas and scorpions being mostly common about these parts. That they are invariably composed of an alkaloid of a toxic nature, bringing about a certain numbness of sensation as a provision of nature to minimise the pain of death, and loss of motion to enable the capture of their prey, is only too apparent. This being a case which very seldom has appeared in the VETERINARY JOURNAL, I hope it will be of some use to the members of our profession to show that a great deal may be done by utilising electricity in our daily practise, as I have always had good results accrue from its judicious use.

## FILARIA OCULI.

BY VETERINARY CAPTAIN A. F. APPLETON, ARMY VETERINARY DEPARTMENT.

SECUNDERABAD has this year had many visits from our old friend the Filaria Oculi. This, considering it is one of the dryest stations in India, and the supply of tank and well-water particularly clean and good, can only be accounted for through the supply of lucerne or root grass. The latter is collected daily by women wherever they can find it, which, in the summer time, means the edges of tanks or stagnant water of some kind, as all other grass dries up. Bundles of this grass, or roots of grass, are brought in, dried, and cleaned, and issued to horses as part of their ration. And this is undoubtedly the source of our periodical outbreaks of anthrax, and also of, I should say, the Filaria Oculi, as these parasites, or rather their eggs, undoubtedly find their way into the alimentary canal, either directly or indirectly, by means of stagnant water. The first symptom which calls attention to this affection is "shying," when, on examining the eyes for the cause, a small, thread-like worm is seen either swimming about, eel-like, in the aqueous humour, or lying coiled on itself. The eye is, as a rule, distended, and has a wild look. No doubt as the worm passes before the lens it appears to the horse to be some awful beast; but in a few cases, particularly if exposed to a strong light, the eye becomes closed and watery. In the course of a few days the humour becomes of a milky appearance, and the worm consequently less visible, and unless it is removed it becomes permanently opaque, and the sight lost. Whether this opacity is caused by the local irritation of the worm itself on the iris or coats of the eye, or by its direct action on the humour by its movements, or some irritant given off from its body, I am unable to say; but two cases have lately come into my infirmary, in neither of which was there any cloudiness, although I was unable to remove the worms. The first was a charger with a well-developed filaria, swimming free in the humour, and I arranged to put him down and take it out the following morning, but when brought out it was found to have got behind the iris, only one end of it being just visible in the pupil. This I dilated with belladonna, but still failed to move it, so the horse was put back in his box, and carefully watched in the hope the worm would free itself, but it remained where it was until the fourth day, when it disappeared entirely. I kept my patient three weeks under careful observation, but he did not show the slightest symptom of, nor inconvenience from, its presence, and his sight is still perfect.

The moral is, I suppose, never put off till to-morrow; but what puzzles me is, what became of that worm, and why its presence behind the iris caused no inconvenience—if it got into the vitreous humour, one would expect nervousness and either a contracted or distended pupil. The second case was the same, only the worm was never free in the aqueous humour, being apparently imprisoned between the iris and and the lens. Belladonna in this case released him, but instead of coming out he got further behind the iris, and I was never able to see him again, nor did the eye appear to suffer in the slightest from his presence there.

Treatment consists in puncturing the cornea and removing the worm; the opening should be made at its upper and outer margin, with the double object of allowing the chamber to fill again easily and keeping any small scar that might remain well away from the line of vision. The best instrument to make the opening with is a large-sized suture needle. This is more easy to puncture the cornea with, curves away from the iris as it passes in, and as long as it is pressed forward the humour does not escape, so that the operator can wait until the worm is in a good position to come away before he withdraws it, when it invariably follows with the humour. If the horse is a quiet one, and easily kept under control, I use cocaine, and operate standing; but if he is at all restive or a valuable animal, I always cast and use chloroform. In operating—standing, particularly if a knife is used—there is some risk of puncturing or scratching the iris: this has twice occurred to me, and led to my trying the needle. The first case was a charger, and he moved his eye just as I punctured, causing the point of the knife to touch the iris, from which blood immediately started to ooze, and although I got my worm, the chamber filled with blood and looked very forbidding; however, the next morning I opened it again and released the contents, and in a week's time the eye was quite clear and good. The second one occurred the same way, but as the horse was an old one and a carter, I waited to see what would happen, and to my surprise in three weeks the eye was perfectly clear again, having gradually changed colour, from red to brown, green to yellow. The after-treatment simply consists in tying up its head for two or three days to prevent rubbing, and keeping a damp shade over it.

If by any chance the worm should not come away with the humour, it should on no account be fished for, but the operation repeated the next or second day. The Filaria Oculi is a small thread-like white or satin-coloured parasite, from

$\frac{3}{4}$ in. to $1\frac{1}{4}$ in. long, with a round body, a mouth, arms, and intestinal canal, and distinct sexes, generally distinguishable by the twist of the tail. A form of paralysis is frequently associated with this worm, but in my opinion it is not true "kumri": this disease appears to be due more to climatic influences, and occurs in stations where this filaria is unknown.

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## TUBERCULAR MENINGITIS IN THE OX.

*Importance of Nervous Symptoms for Diagnosis of the Disease.*

TUBERCULAR spinal meningitis. Paraplegia native work-ox, five years old, March, 1899. Disturbances of the system made their first appearance about two months ago in the shape of a slight trouble in walking, taking the form of a vacillating condition of the hind-quarters. The hind legs during walking made jerky motions; work became impossible. These manifestations have been accentuating themselves slowly but continuously. Latterly, rising up was very difficult; the fore legs could be raised without difficulty, then the patient would remain for some moments sitting on its hind-quarters like a dog. Often the assistance of a man was needed to set it on its legs. Appetite was always excellent. Formerly shortness of breath had been observed during work; but no cough was said to have been heard. *Present state.* Since yesterday the animal has been lying on its left side, absolutely incapable of rising. Sensibility to a prick maintained in the fore legs. Defecation and micturition without abnormal effort. Weak appetite; no fever. *Diagnosis.* Very evident. Visceral tuberculosis with complications in the spinal meninges. Slaughter immediately advised. *Autopsy* took place the following day. Decubital lesions in the prominent regions of the left side. Pulmonary tuberculosis with very numerous but small pisiform foci; bronchial ganglia exceedingly hypertrophied and caseous. Discrete lesions on the right costal pleura; caseous mesenteric ganglia. The vertebral canal was opened up the whole of its length, and the medulla, surrounded by its envelopes, isolated. The external meninges having been removed at various points, the lesions of the deep meninges could be seen. These membranes were attacked by a very rich tuberculosis. The lesions extended from the middle of the cervical region as far as the lumbo-sacral. The deep meninges were mixed up in a pinky granulous membrane, very rich in transparent shining

tubercles, varying in size from a poppy-seed to a pea, confluent or isolated. In the region of the cervico-dorsal swelling, where the lesions were more strongly marked, upon a transversal section of the medulla and its envelopes this membrane was seen to reach a thickness of four millimètres and to fill up the whole of the space between the dura mater and the medulla. In the other regions its thickness varied according to the face of the medulla, which was viewed; the truth was, that the latter had been irregularly compressed on its different faces, and had lost its more or less rounded contour. At some points it was lozenge-shaped, at others a well-isolated peripheric tuberculous nodule had lifted up the dura mater at the same time that it caused a depression in the white surface of the medullary cords. Apart from this compression, which caused very visible irregularities of contour on transversal sections being made, the medulla seemed uninjured. The meningeal tubercles when crushed and coloured in a suitable manner showed us a pretty plentiful number of Koch bacilli.

Apart from some recent observations, veterinary literature is very poor in facts relating to tuberculous meningitis in the bovine species. At the time when Röll (*circa* 1869) published his treatise on pathology, this disease was almost totally unknown, seeing that the author wrote: "The existence of tuberculous meningitis has not yet been sufficiently established at the present day." Without being exactly common, meningeal aspects of tuberculosis are, however, far from being absolutely rare; our conversations with several colleagues, and personal experience, have shown us that. If the facts published are considered, their *rationale*, in our opinion, must be simply found in the difficulties of the autopsy of the nervous centres, a somewhat delicate and lengthy operation, before which many practitioners doubtless hesitate. We must also not forget the circumstance that the dead body is generally presented to them spoilt by felling and by the vertebral split. A synthetic description of tuberculous meningitis in the bovine animal has still to be written from the foundation. The accounts which have already been made public, joined to our own, scarcely authorise anyone to attempt this work. We would, however, like to sum them up shortly, and show, according to their merits, the important services which nervous manifestations of tuberculous origin may render in the clinical diagnosis, often so delicate a matter, of tuberculosis in bovines. No practitioner can contest the fact that this diagnosis is surrounded by great

difficulties in the majority of cases. The signs collected in ordinary clinical investigation all lead to confusion, and have meant for each of us one or two errors in diagnosis. The nervous symptoms will always be able, should a case happen, to lead us to a firm foundation for diagnosis. We will review them successfully in the encephalic and in the spinal form of the disease.

(*a*) *Encephalic tuberculous meningitis.*—The symptoms are at first variable. They appear slowly or with the suddenness of congestion of the brain, but in all cases they soon resolve themselves as a whole into a pretty uniform state, which we propose to call *meningitism.* In this state the observer is struck by the *nervous gait* of the animal. The general attitude is curious, the subject is immobile, its head stretched out or inclined laterally. The subject pushes with its muzzle against the manger or the wall, or drags at its halter. The physiognomy is frightened or somnolent, ptosis is frequent, and *strabismus* is rarely absent. Intelligence seems very obtuse, sight and hearing considerably dulled or destroyed. There are no characteristic pupillary phenomena, and no *observable* disturbance of the general sensibility. The gait is uncertain, vacillating as in alcoholic intoxication, the rhythm in the play of the limbs is more or less affected. There are sometimes riding-school movements. Convulsive fits sometimes make their appearance, in the course of which the patients have more accentuated disturbances of equilibrium, drive against the wall, or pull violently at the halter. The attack ends in a fall, accompanied by epileptiform contractions, with chewing motions of the jaws. Apart from these critical states and the possible manifestations of primitive visceral tuberculosis, the general health is little affected. Often enough appetite is preserved and the important functions are well performed. The *pain* (which must be admitted *a priori*, since it exists in the human disease) scarcely betrays itself objectively. A remarkable thing is that the temperature hardly reaches the normal. More or less marked *remissions* may show themselves in the course of the disease. The *diagnosis* is simple, and we would recall the fact that we have been able to fix it *at a distance*, from hearing the summary and very incomplete account of the nervous phenomena observed by the attendants of the patients. The stupid, somnolent, or frightened physiognomy, the abnormal attitude of the head, the strabismus, the disturbances of vision and of locomotion, the apyrexia, etc., form a sufficiently typical picture. It is true that these

symptoms are found in other marked cases which might put one on the wrong scent, in certain *intoxications* especially; but the information furnished and a short inquiry are in most cases sufficient to eliminate the idea of a toxic. *Cerebral cœnurosis* is of extreme rarity, especially in adult animals. Percussion of the skull gives proof of a hypersensibility, which can be also well observed in tuberculosis encephalitis with large foci (obs. of M. Moussu, 1898), but in no way in tuberculous meningitis. *Simple meningitis* (spasm of the nape of the neck) makes its appearance more suddenly, brings on paralytical disturbances and opisthotonus, and rarely evolves without fever. In *cerebral hyperæmia* the phenomena are much more violent, the duration shorter; the comatose state is generally preceded by a phase of excitement of short duration. Finally, the discovery of a manifestation of visceral or ganglionary tuberculosis—even of a manifestation without diagnostic value, taken in the isolated state—and the criterial injection of tuberculin will remove all doubt as to the nature of the cause of the nervous phenomena noted.

(*b*) *Spinal tuberculous meningitis.*—This has generally the appearance of what is known in veterinary medicine under the name of *strain in the back.* Only here the strain in the back differs from those of traumatic cause in its sudden appearance and its progressive character. There is first a simple trouble in locomotion. Then, as the inco-ordination of the play of the limbs becomes accentuated, the hind legs become vacillating, the limbs describe arcs of a circle in adduction or abduction, instead of moving parallel to the great axis of the body. Rising is difficult and hesitating, being performed after the manner of a horse, the front legs being raised up first. Locomotion becomes more and more laboured; the dorso-lumbar fascia acquires such flaccidity that, at the least movement, lateral falls threaten to take place, or do take place. Finally, *paraplegia* shows itself. It may be accompanied, as paraplegia cases are, by a medullary lesion, causing marked trouble in defecation and micturition. The general condition becomes impaired only towards the end as a result of permanent lying down. The exclusion of all traumatic causes, the progressive nature of the disturbances, concomitant signs of visceral or ganglionary tuberculosis, the positive result of an injection of tuberculin, form solid supports for the *diagnosis.* Our experience does not authorise us to establish incontestably the existence of a *sharp paraplegia of tuberculous nature.* Sometimes we are, however, inclined to admit its existence as resulting from a rapid tuberculisation of the medullary

meninges, or from a hæmorrhage caused by meningeal tubercles which had hitherto remained inactive. In the chronic form the disease evolves slowly, and may last for from several weeks to several months.

*Pathological anatomy of tuberculous meningitis.*—The lesions do not differ essentially in the encephalic and spinal forms of the disease. When the tubercles are large and confluent, they may sometimes be suspected of having penetrated through the dura mater, which is stretched and somewhat irregularised on its surface by the adjacent lesions. But these lesions are generally visible only after removal of the exterior meninx. As a rule the latter, as well as the arachnoid membrane, which is firmly adherent to its internal face, in no way participate in the lesions. The deep meninges appear thickened, granulous, of an irregular greyish or reddish colour, with a shining appearance of its own peculiar kind. Sometimes widespread ecchymoses stand forth vividly on the general colouring of the ground by reason of their blackish tint. The visceral arachnoid, on being raised up, shows on its internal face a fibrinous exudate, which fills the subarachnoidian spaces, and establishes an abnormal continuity between it and the pia mater. The vessels of this latter meninx are injected, and their complicated meshes thickly strewn with a crop of transparent miliary granulations, rarely opaque, isolated, or confluent. Direct examination with the magnifying glass or microscope, after hardening, shows, when the lesions are still isolated, the relations of the tubercles to the vessels. All the granulations are lodged along the course of the arteries, which they overlay or surround, and to which they give in this way a knottty necklace-like appearance. The lesions in the encephalic form reach their height in the lower and latter parts of the isthmus, as well as at the base of the cerebellum, and on the anterior peduncles of the cerebellum. In the spinal form they appear to particularly affect the lumbo-sacral swelling of the medulla, but may also be irregularly disseminated over the whole extent of the rachidian meninges. One may even meet with both encephalic and rachidian lesions on the same subject. With the specific and inflamma tory lesions hæmorrhagic lesions may sometimes be seen associated. The reason is simple. The periarterial tuberculous granulations set up inflammation of the vascular tunics as far as to the endarterium. The endarteritis causes the formation of small thromboses, and the resistance of the vessels diminishes in the spaces which have ceased to be normally

irrigated and yields to the sanguine pressure. Infarcsi are thus formed, which have a variable extent and a kind of irregular form. In tuberculous meningitis of the child the lesions do not differ from those which we have just described. They are "tuberculous granulations plunged into the midst of inflammatory products; they have the size of a grain of sand or millet, are grey, semi-transparent or yellowish opaque, full of concrete pus. They develop in the perivascular sheath of the vessels of the pia mater. Under the influence of this phlegmatic operation, the blood coagulates in the vessel, whence arises œdema in the corresponding parts of the cerebrum. The pia mater enclosing these granulations becomes inflamed and thickened, and underneath it in the subarachnoidian space is found a concrete fibrinous exudate." (Moynac, *Manuel de Pathol.*) The tubercules are generally of a tender age, which is explained by the precocity of the serious disturbances which lesions of this kind, by reason of the position which they have taken, cannot help causing. They are for the most part lymphoid tubercles. The giant cellules are here exceptional, these taking their rise only in slow processes of long duration. They were especially abundant in the tubercles of the case mentioned at the beginning of this article. When the duration of the disease permits, there may be observed amongst the crude granulations some tubercles which have undergone caseous degeneration.

*Pathological physiology.*—Examination of the lesions in meningeal tuberculosis shows that it is a question of young lesions, secondary in every case. Tubercles had in every case been invading for a long period the pharyngeal and thoracic ganglia, the lungs, pleura, etc. Functional disturbances soon put in an appearance as a result of the tuberculisation of the meninges, and that is easily understood. Indeed, the arterioli thrombose rapidly on the level of the granulations, and circulatory difficulties—bringing on œdema, ischæmia, hæmorrhages in the nervous territories to which these vessels lead, serious because of the impressionability of the regions which suffer from them—soon make their presence felt externally by objective symptoms. These symptoms may be simply phenomena of mechanical compression by the tubercles, but probably this occurs pretty rarely, for one sees considerable compressions of the nervous centres tolerated quite well and bringing on no functional injury. In meningo-encephalic tuberculosis the lesions have too diffuse and too unsystematic a distribution to allow any inference to be drawn as to the localisations of the lesions by

means of examination of the functional disturbances. One may even find these disturbances with a few variations occurring in tuberculous encephalitis, of which M. Moussu has lately published an interesting observation. A somewhat unlooked-for symptom, which never seems to be wanting in either encephalic tuberculosis or in meningeal tuberculosis, in which we have never seen it absent, is apyrexia. The absence of fever is equally remarkable in tuberculous meningitis in children at the second period. Ought we not to ascribe it to the direct disturbances of the thermogenetic centre, which prevent this centre from reacting to infection in the usual way by an augmentation of the general temperature?

*Conclusions.*—1. Tuberculosis in the ox is pretty frequently accompanied by localisations in both the encephalic and spinal meninges.

2. The diagnosis of meningeal tuberculosis rests on sufficiently simple and characteristic symptomatic manifestations.

3. A full statement of these is likely to render important services in the clinical diagnosis of tuberculosis in the bovine species.—M. HAMOIR in the *Annales de Méd. Vét.*

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# Legal News.

WE append a copy of an Interlocutor and Note by Sheriff Fyfe in reference to a case which was tried at Lanark recently.

It shows how very important a matter it is for a veterinary surgeon to make a thorough *post-mortem* examination when called upon to make one at all, and it also shows that there is still considerable humour amongst Scotch judges, and shows their appreciation of *expert* evidence.

## COPY INTERLOCUTOR AND NOTE—I. C.

### FLEMING *v.* BARR.

Lanark, 31st May, 1899. Having considered the cause, *finds* (1) that a sale of horses took place at Lanark Auction Mart on Friday, 14th October, 1898. (2.) That by the conditions of Roup, a sale was to be held void if there was a radical defect in the animal sold, although latent. (3.) That Defender put in a horse for sale, which Pursuer bought and paid for at the price of £31 10s. (4.) That the same day the horse was sent by rail to Pursuer's farm in Fife, and that it died there on Sunday, 16th October, two days after the sale. (5.) That Pursuer avers, but has failed to prove, that at the time of sale the horse was suffering from latent disease of the heart. FINES in law that the sale was completed when the horse was knocked down to

Pursuer at the auction and the price paid by him on 14th October, and that, Pursuer not having proved any facts relevant to void the sale, Defender is entitled to retain the price. *Therefore*, assoilzes the Defender, and finds him entitled to expenses. Allows an account thereof to be given in and remits the same when lodged to the Auditor to tax and report and Decerns.

(*Signed*) T. A. FYFE.

*Note.*

The single issue in this case is, whether the horse at the time of sale was suffering from what Pursuer in record calls primary weakness of the heart. To answer this, no assistance is derived from the *post-mortem* certificate, for that only says that the cause of death was syncope of the heart, which, I take it, is the immediate cause of every death. We want some information behind this, but, unfortunately, no skilled assistance was got till after the horse had died, and none of the people who saw the horse alive can describe symptoms inferring organic disease. Mr. Cairns, who made the *post-mortem* examination, says that the dulness described did not necessarily indicate heart disease. (Proof 39*e*.) Mr. Jarvie, the veterinary surgeon called by Defender, agrees with Mr. Cairns in the very safe opinion that syncope of the heart was the cause of death; but he adds, "according to my opinion that did not arise from any cause at the date of, or prior to, the sale on the Friday previous. (Proof 63*c*.) The evidence of the other two skilled witnesses—Professor W. Owen Williams, of Edinburgh, and Principal McCall, of Glasgow—is very interesting and instructive upon the general question of the symptoms of disease in horses, but neither of them saw the horse in question, either alive or dead, and their evidence is only an expression of opinion based upon the facts spoken to by the other witnesses examined—although I heard it—there being no objection taken on either side. I had, and still have, some doubt as to its being competent evidence at all; but, assuming it to be so, the two professors, after the fashion of skilled witnesses, arrive at different conclusions; Mr. Williams being of opinion (Proof 44) that at the time of sale the horse must have had a weak heart, while Mr. McCall finds nothing indicating that the animal was diseased at the time of sale. (Proof 97.)

The burden of proof is on Pursuer to show that at the time of sale this horse was unsound, and as in my view he has failed to discharge the *onus*, the sale must stand, and the Defender is entitled to absolvitor with costs.

INTD. T. A. F.

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# Reviews.

## MESSRS. C. J. HEWLETT & SONS.

THESE well-known druggists have issued a small handbook, "Therapeutical Notes in New Drugs and Veterinary Medicines," which naturally refers largely to their own specialities, as they give it away to any veterinary surgeon who chooses to write for one; but apart from that it is very useful indeed to the practitioner who desires to be up to date in his pharmacy.

THE ANNUAL RETURN SHOWING THE NUMBER OF EXPERIMENTS PERFORMED ON LIVING ANIMALS (UNDER LICENCE) DURING THE YEAR 1898,

Has just been issued, and from it we learn that—

I.—There are 234 licensees, of whom 61 performed no experiments.

II.—That the licensees are persons who, by their training and education, are fitted to undertake experimental work, and to profit by it.

III.—That the only experiments performed without anæsthetics were of the nature of inoculations or hypodermic inoculations.

IV.—The number of inoculations, mainly for the diagnosis of rabies, shows a marked diminution—from 687 in 1896 to 436 in 1897, and to 307 in 1899—owing to the decrease in rabies.

V.—That out of 9,151 experiments 7,640 were of the nature of injections or inoculations.

VI.—And of this total 479 were performed by veterinary surgeons, and these were chiefly inoculations or injections.

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THE JOURNAL OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND, Volume X., No. 38, to hand, contains a most interesting abstract of records obtained by Mr. WALTER HEAPE, M.A., on "Abortion, Barrenness, and Fertility in Sheep, in 1896—97."

Mr. Heape says:—"I have strong evidence to show that in a large proportion of cases a high percentage of abortion is associated with the poor condition of the ewes." The paper is a most interesting one to those who have to deal with sheep.

There is also a paper of much importance on "The Bacterial Treatment of Sewage," by Mr. DAN. PIDGEON, Ass. Inst. C.E., and well worthy of being carefully perused.

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### A VETERINARY SURGEON KILLED IN PERTHSHIRE.

MR. ALEX. GOW, V.S., Guay, was killed on the 19th July on the Highland Railway. After inspecting an animal at Dalguise, Mr. Gow proceeded to walk home along the line, when he was run down by a north-going train. Mr. Gow, who spent many years of his life as an army surgeon, had a very large practice.—[Mr. Gow's name is not in the Register of the R.C.V.S.]

# Correspondence.

## HEWSON'S CARLISLE APPEAL FUND.

*To the Editor of* THE VETERINARY JOURNAL.

SIR,—Will you kindly allow a little space for the further list of subscribers towards the above fund?

| | £ | s. | d. |
|---|---|---|---|
| Amount of subscriptions notified in the June number .. | 47 | 5 | 0 |
| Mr. Jos. Donald, Wigton .. .. .. .. .. | 0 | 10 | 6 |
| „ Henry Howse, Lincoln .. .. .. .. .. | 0 | 10 | 6 |
| „ J. Kendall, Barrow .. .. .. .. .. | 0 | 10 | 0 |
| „ H. A. Hunter, Newcastle-on-Tyne .. .. .. | 1 | 1 | 0 |
| „ John Steele, Wigton .. .. .. .. .. | 1 | 0 | 0 |
| „ A. Sisson, Lamplugh .. .. .. .. .. | 0 | 10 | 0 |
| „ T. H. R. Threlkeld, Kirkoswald .. .. .. | 1 | 1 | 0 |
| „ Jas. G. Bell, Carlisle .. .. .. .. .. | 0 | 10 | 6 |
| „ Andrew Robb, Glasgow .. .. .. .. .. | 1 | 1 | 0 |
| „ Jas. Little, Abbey Farm .. .. .. .. .. | 1 | 0 | 0 |
| „ J. S. Walker, Kirkby Lonsdale .. .. .. .. | 0 | 10 | 0 |
| „ H. W. Caton, Mile End Road, London .. .. . | 1 | 0 | 0 |
| „ Harold Fairer, Derby .. .. .. .. .. | 0 | 10 | 6 |

The following subscriptions per Mr. W. Awde from members of the South Durham and North Yorkshire Veterinary Association :—

| | | | |
|---|---|---|---|
| Mr. A. Peel, West Hartlepool .. .. .. .. | 0 | 10 | 6 |
| „ P. Smith, Bishop Auckland .. .. .. .. | 0 | 5 | 0 |
| „ Jos. Smith, Stokesley .. .. .. .. .. | 0 | 5 | 0 |
| „ C. G. Hill, Darlington .. .. .. .. .. | 0 | 5 | 0 |
| „ W. W. Dobbing, Darlington .. .. .. .. | 0 | 5 | 0 |
| „ J. H. Taylor, Darlington .. .. .. .. .. | 0 | 5 | 0 |
| „ W. H. Blackburn, Barnard Castle .. .. .. | 0 | 5 | 0 |
| „ W. Awde, Stockton-on-Tees .. .. .. .. | 0 | 10 | 0 |
| „ Jno. Wilson, Yarm .. .. .. .. .. | 0 | 5 | 0 |
| Total .. .. .. | £59 | 15 | 6 |

HENRY THOMPSON,
*Hon. Treasurer and Secretary.*

Aspatria.

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THE veterinary profession are now following in the footsteps of the medical profession, inasmuch as veterinary surgeons are now attending post-graduate courses. As is well known, veterinary science is advancing with rapid strides, and men who have been qualified for a number of years find that they are getting a little behind the times. The New Veterinary College is the first college to initiate these post-graduate classes, and this, its first course, is being attended by a considerable number of veterinary surgeons. The course covers the latest methods of meat inspection and bacteriological research.—*Edinburgh Evening Dispatch*, 29th June.

# Proceedings of the Royal College of Veterinary Surgeons and Veterinary Medical Societies, etc.

## ROYAL COLLEGE OF VETERINARY SURGEONS.

A MEETING of Council was held at the College on the 7th July, over which A. W. Mason, president, presided.

The following members of Council were present:—

General Sir Frederick Fitz Wygram, Colonel J. D. Lambert, Professors Dewar, Penberthy, Pritchard, W. O. Williams; Messrs. J. Abson, W. F. Barrett, W. Bower, J. H. Carter, R. C. Trigger, S. Villar, A. C. Cope, G. Elphick, J. Fraser, C. Hartley, A. Lawson, S. Locke, W. F. Mulvey, J. F. Simpson, G. Wartnaby, F. W. Wragg, George Thatcher (Solicitor) and A. W. Hill (Secretary).

Before the business of the meeting was proceeded with, Mr. Trigger expressed, on behalf of the council, the regret felt by the members at the absence of the president from the committee meetings of the previous day, and the pleasure with which they saw him present that day. He hoped that Mr. Mason's domestic troubles were very nearly at an end.

Letters regretting inability to attend were received from Principal Williams and Professor McCall.

### *Election of President.*

Mr. MULVEY: I have much pleasure in introducing to the notice of this council the name of a gentleman who has served as a member of council for a good many years, and who has done the duties which have been entrusted to him ably and well. I feel certain that if he is elected he will fulfil the duties of the office with credit to himself and honour to this council, and therefore I beg to propose the name of Mr. Fraser as president.

Mr. LAWSON: I have very great pleasure in seconding that. I have sat with Mr. Fraser on this Board for a number of years, and no harder working member I am sure sits at this Board.

Mr. HARTLEY: Mr. Fraser is an esteemed friend of mine, and I have very great pleasure in supporting his nomination.

The resolution was carried with acclamation.

Mr. MASON then vacated the chair, which was taken by Mr. FRASER, who said: Gentlemen,—A cynical Frenchman once remarked that speech was given to man in order that he might use it to conceal his thoughts, and I have no doubt that on many occasions it is used for that purpose, but in the majority of instances other objects are in view, and, instead of concealing one's thoughts, a man wishes to try and reveal them. Just now I have a difficulty in selecting words that adequately express my sense of the honour that you have conferred upon me, an honour greatly enhanced by the fact that it has come from you, from a body of public men, with whom I have worked now for many years, and the pleasure is greatly increased by the fact that it has been unanimously bestowed. It may interest you, and possibly give you pleasure, if I mention one circumstance in connection with this election. It is probably within the knowledge of some, if not all, of you, that I am a native of the Dominion of Canada—that I am a colonist. Some of my predecessors in this chair have been men of distinguished reputation, widely-known beyond the limits of the profession, but I think I am the first colonist who has been elected to this honourable position. The time is not very long distant when the colonies were looked upon by the people of this country as a somewhat useless, if not burdensome, appendage. To-day the views are much more

enlightened with regard to the situation, and I am sure there is no man at this table who is not proud of the British colonists. Canada, the colony to which I belong, is the oldest, the largest, and the wealthiest in the British Empire, and I am pleased to tell you that the veterinary profession there is in a very good position and doing a very useful work. My colleagues in that country will be pleased to know, not only that I am elected to this position, but I am the first member of the Canadian profession placed in this chair. I can only say that I will do my best to be worthy of you, to be worthy of the profession, and to be worthy of Canada. Any one of these conditions would be enough to prompt a man to put forth his best effort, but when combined their force is irresistible. Gentlemen, I thank you with my heart, my lips fail me.

Mr. SIMPSON: Mr. President, it has been the almost invariable custom of this council to express its appreciation of the labours of the ex-president, and I feel sure that it would not be your wish that this should be an occasion on which this compliment should not be paid to our ex-president. The year has not been, perhaps, an exceptionally eventful one, but there has been much hard work, and much serious thought required from Mr. Mason, and briefly, Sir, I will ask the council to accord to him a most hearty vote of thanks for all he has done, for the courteous way in which he has treated all remarks that have been addressed to him during the time that he has been in the chair, and for the very able way in which he has carried out all those duties which fall to the lot of the president when he is not actually occupying the presidential chair before the council. I have very much pleasure, Sir, in submitting that proposition to the consideration of the council.

Mr. WRAGG: I have very great pleasure in seconding the proposition Mr. Simpson has moved of a vote of thanks to our late president, and I do so with the very greatest of pleasure, endorsing in every way what Mr. Simpson has said.

The resolution was carried with acclamation.

Mr. A. W. MASON, in reply, said: Mr. President, Mr. Simpson, and Mr. Wragg,—If my humble efforts for the advance of the profession or the dignity of the chair which I have just lately occupied have been so much appreciated that the unanimous thanks of this council have been accorded to me, I am perfectly satisfied that any little trouble or hardship it may have caused, the travelling I have had—and I must mention the travelling, because it is somewhat of a burden to hold so responsible a position and to live such a long distance away—if my conduct in the chair has satisfied you, I can only say that I am amply paid. Before I sit down I must thank you, Sir, and my brother councillors, for the loyal support they have given me in the past year, and I hope, Sir, you may have equal, as I am sure you will have the loyal, support of all the members of this council that has been given to me in the past.

### *Election of Vice-Presidents.*

The following gentlemen were unanimously elected vice-presidents: Messrs. Mason, Wartnaby, Abson, Lawson, Villar, Bower.

### *Election of Treasurer.*

Mr. MULVEY: Our friend, Mr. Wragg, has so ably filled the office of treasurer for so many years, that I am sure we should feel honoured if he would again accept the office.

Mr. TRIGGER: As president of the Finance Committee, I beg to assert that the council could not do without Mr. Wragg. I have great pleasure in seconding the resolution for his re-election.

Mr. LAWSON: I have very great pleasure in supporting it.

The resolution was carried unanimously.

Mr. WRAGG: My friend, Mr. Mulvey, says that I have been on the committee now for some years, and I feel that I am getting rather old for this place. I should like to have some younger and better man to follow me, but as it is your wish, and so unanimously your wish, and has been put so very nicely by the proposer and seconder, I shall be very pleased to undertake the duties again for another year.

*Election of Secretary and Registrar.*

On the motion of Mr. MASON, seconded by Mr. MULVEY, Mr. A. W. Hill was unanimously re-elected secretary and registrar, Mr. Mason publicly thanking Mr. Hill for the assistance he had given to him during the last year.

Mr. HILL briefly thanked the members for his re-election.

*Election of Secretary of Board of Examiners in Scotland.*

On the motion of Mr. MULVEY, seconded by Mr. SIMPSON, Mr. Rutherford was unanimously re-elected Secretary of the Board of Examiners in Scotland.

The business of the quarterly meeting of council was then proceeded with.

*Quarterly Meeting.*

A quarterly meeting of council was then held, Mr. J. Fraser, president, in the chair. The same members were present as at the meeting just held, with the addition of Colonel Duck and Professor MacFadyean.

The minutes of the last meeting were taken as read and confirmed.

*Correspondence.*

A letter was read from the Right Hon. R. H. Knox, of the War Office, dated 22nd June, 1899, acknowledging the receipt of a memorial from the R.C.V.S. upon the subject of the appointment of a veterinary surgeon to every Yeomanry Corps, independent of its strength, and informing the council that that question had been fully considered, and that it had been decided that in future a veterinary officer should, as requested, be allowed to each Yeomanry Corps, and that the arrangement under which, in certain corps, an acting veterinary officer had been allowed in lieu of one of the number of non-commissioned officers and men on the authorised establishment accordingly would cease to exist.

A letter was also read from the Registrar of the Pharmaceutical Society of Ireland, enclosing a resolution on the subject of the Companies (Medical Professions) Bill, and a note with reference to the Lord Chancellor's action in excluding pharmaceutical chemists and chemists and druggists from the Bill.

The communication was referred to the Parliamentary Committee.

A letter was also read from the hon. secretary of the Lincolnshire Veterinary Medical Asssociation, enclosing a resolution, in which the members of the association suggested to the council that, in view of the different local authorities applying to the Looal Government Board for powers to control the inspection of meat and the management of dairies and cow-sheds, special efforts should be made by the council to enquire into the matter, with the idea of procuring means to secure the rights of the profession.

The letter was referred to the Parliamentary Committee.

A letter was also read from Mr. Cope, of the Board of Agriculture, enclosing copy of letter received from the Home Office with reference to the tuberculin test, from the point of view of its being an operation within the meaning of the experiments upon Animals Act. The following is a copy of the letter :—

Whitehall, *1st May*, 1899.

I am directed by the Secretary of State to acquaint you, for the information of the Board of Agriculture, that he considers that, having in view the object of the operation in question, it should not properly be considered an "experiment calculated to give pain" within the meaning of the Act.

I am to add that the Secretary of State's opinion upon this subject must not be regarded as binding; and of course he will be prepared to grant licences and certificates under the Act in respect of such operations if the persons concerned consider it necessary for their protection to hold them. It would be open to anyone who could prove that an operation of the kind referred to was an experiment and "calculated to give pain" to institute a prosecution, which would test the soundness of the view taken by this Department.

I am, Sir,
Your obedient Servant,
(Signed) HENRY CUNYNGHAME.

The Secretary,
Board of Agriculture, 4, Whitehall Place, S.W.

Professor McFADYEAN : Might I ask who was guilty of the folly of suggesting that tuberculin came under this Act? The letter must have been a reply to somebody, I take it. It was a most foolish thing to do.

Mr. COPE : I do not quite appreciate my friend Professor McFadyean's question. The letter which has been read, and which has been received at the Board of Agriculture from the Home Office, is in reply to some questions which were placed before the Board of Agriculture by some authorities on the point. I cannot tell you who the authorities were, but I will find out if you wish. On that ground the Board of Agriculture wrote to the Home Office and received that reply.

Professor McFADYEAN : I think Mr. Cope has clearly understood my question, and he is able to answer it. I asked who were the people who asked this foolish question.

Mr. COPE : I do not know whether it can be called foolish or not, but if you think it is of any advantage to you I will find out.

Professor McFADYEAN : Thank you.

### *Presentations to Library.*

The SECRETARY announced the receipt of copies of the veterinary periodicals, and a vote of thanks was unanimously accorded to the donors.

### *Finance Committee.*

Mr. TRIGGER read the report of the finance committee, which stated that the present liabilities amounted to £324 13s. 5d., which the committee recommended to be discharged, leaving a balance of £295 8s. 5d. The committee also recommended that the committee attending the Highland Conference in Edinburgh should be paid their out-of-pocket expenses, and be asked to furnish statements. The committee also called attention to the expenses in connection with the annual dinner, and considered that in view of the small number attending, the question of continuing the dinner should be considered by the council. Mr. Trigger moved the adoption of the report, which was seconded by Mr. LAWSON, and agreed to.

### *Registration Committee.*

On the motion of Mr. SIMPSON, seconded by Mr. MASON, the name of Mr. Daniel Stewart was restored to the register. He had failed to intimate to the Secretary his change of address owing to being away from home.

Mr. SIMPSON then read the report of the Registration Committee, which stated that there had been two prosecutions, one for using the words "veterinary forge," and the other for using the words "veterinary surgery." In both cases fines of 10s. were inflicted with costs. The committee recommended certain prosecutions, and also that the name of Mr. J. A. Brown, of Belfast, should be restored to the register. The committee reported that they had considered a large number of cases for advertising, in most of which undertakings had been given. A large number of complaints had been received of persons using the words "veterinary shoeing forge," and cautionary notices had been directed to be sent out. The committee further reported that they had considered the case of Mr. T. H. Pinkett, referred back to them by the council, and they found that Mr. Pinkett had been guilty of unprofessional conduct, but that in view of the fact that it was the first offence of the kind reported to the Registration Committee, they recommended that Mr. Pinkett should be severely censured by the council. Mr. Simpson moved the adoption of the report, which was seconded by Mr. MULVEY.

Some discussion ensued as to the form which the censure of Mr. Pinkett was to take, Colonel LAMBERT suggesting that the council could very well afford to dispense with Mr. Pinkett's presence, and say what it had to say in a very brief letter. Mr. Pinkett had already had a tremendous lot of trouble over the matter, and he did not think any harm would be done in exempting him from attending before the council.

Mr. BARRETT pointed out that the vote of censure had not been passed on Mr. Pinkett, and could not until the report was adopted.

The resolution for the adoption of the report was then put and carried unanimously.

Professor W. O. WILLIAMS said he understood now it was the duty of the council to decide what punishment should be inflicted upon Mr. Pinkett. The matter had nothing whatever to do with the committee. At the last meeting it was decided by the council that the matter should be re-committed to the committee to say whether Mr. Pinkett were guilty or not guilty, and that was the only finding the committee were asked to give. They had given that finding, and it was now the duty of the council to decide what punishment should be meted out.

Mr. BARRETT asked Mr. Simpson to kindly read the precise wording of the report.

Mr. SIMPSON: "The committee have considered the case of Mr. T. H. Pinkett, which was referred back to them by the council, the charge against Mr. Pinkett being that he, being concerned for the purchaser of certain horses and receiving a fee for so doing, had a secret understanding with the vendor of the horses that in the event of a sale taking place he was to receive some commission or remuneration from him. The committee found that Mr. Pinkett had been guilty of unprofessional conduct, but that in view of the fact that this is the first offence of the kind reported to the Registration Committee, they recommend that he be severely censured by the council."

Mr. TRIGGER moved, and Mr. HARTLEY seconded, that the president should send to Mr. Pinkett a written censure conveying the expression of the opinion of the council.

Mr. BARRETT supported the resolution because he thought Mr. Pinkett had been sufficiently punished in regard to the matter. When before the Registration Committee Mr. Pinkett was subjected to a series of searching questions, and to ask him to come before the council again and be personally censured was a course he thought the council should not adopt.

Professor PENBERTHY had no desire to be connected with any movement to further punish Mr. Pinkett. The main object of the council was to make an example of him. The only course he could see open to the council was to

have Mr. Pinkett before them and to subject him to the censure of the president in the presence of the council.

Professor PENBERTHY proposed a resolution to that effect. He held with Professor Williams there was only one point submitted to the committee and only one point could come up in the report.

Professor WILLIAMS rose to second this resolution, but was ruled out of order, as the motion was already before the meeting.

The resolution that Mr. Pinkett's censure should take the form of a letter addressed to him by the president was then put and carried unanimously.

On the motion of Mr. SIMPSON, seconded by Mr. TRIGGER, the official seal of the college was attached to the prosecution order.

### *Examination Committee.*

Mr. MULVEY read the report of the Examination Committee of the 6th July, which stated that a letter had been read from the Principal of Dick's Veterinary College, complaining of the treatment of a student in the examination in Class B, Stable Management, and after considerable discussion the committee had passed a resolution to the effect that they saw no reason to question the decision of the examiners.

Mr. MULVEY moved the adoption of the report, which was seconded by Mr. LOCKE.

Professor DEWAR said the case mentioned in the report was that of a student in Class B, who was the best student at the college in Class A, taking two first prizes and two seconds in the subjects of that class examination, and making a very good pass in his professional examination. The same student took the first prize in Class B and in every class in the college in the class examinations. He was a good all-round, intelligent student. At the examination he found when he received the marks awarded to the students that that student had received 86 per cent. for anatomy and 80 per cent. for physiology, which entitled him, so far as those subjects were concerned, to first-class honours. But he was very much surprised to find that in stable management he only received 35 per cent. He believed some mistake must have occurred in connection with the student before such a result could have been arrived at. He asked simply that an inquiry be made into the matter. The position of the committee was a most unfortunate one for the student, as it would easily be understood that his career as a student had been wrecked. It was not only the fact that such a thing had happened, but there was the unfortunate "stable management," an examination of which no record could be kept. It was a great mistake that such an examination should be pitchforked into that place, and be made of equal value with the subjects of physiology and anatomy. To show his disagreement with the decision of the committee he moved :—

> That the student should be allowed to go on with his studies in Class C as if he had passed at the recent examination, on condition that he appear at the Christmas examination and pass his Class B examination in stable management.

Colonel LAMBERT seconded the proposition in order to give Professor Dewar a chance of getting the matter ventilated.

Mr. BARRETT opposed the motion because he thought Professor Dewar had taken up the most untenable position a man very well could. The only question was whether the examiners had conferred after the examination in accordance with the Bye-law 86, and he raised the question because several members had told him that such was not the case. If this were so then the student had not been rightly rejected. Professor Dewar, to his surprise, had not raised that important point, but had asked the council to adopt a resolu-

tion which would contravene one of the bye-laws, and which the council was unable to adopt.

Professor McFadyean said, unless he had misunderstood the question which was raised in the letter addressed to the Chairman of the Examination Committee, and which was submitted to the Examination Committee, he submitted that the matter was informal. The Examination Committee had only one class of business committed to them for consideration, and that was the examination of certificates. He held, therefore, that the whole discussion of the question by the Examination Committee was entirely informal, and that the discussion was out of order.

Professor Dewar's motion was lost.

The President ruled Mr. Barrett out of order in raising a question of a further amendment with regard to the matter before the subject of the report was closed, and the resolution for the adoption of the report was then put and carried.

*Walley Memorial Prize.*

Mr. Mulvey read the report of the committee appointed to consider the recommendations for the Walley Memorial Prize, and moved its adoption. He also read the draft regulations for the examination, from which it appeared that the examination was open to students of any Veterinary College in the United Kingdom and Ireland now or hereafter affiliated with the R.C.V.S., who shall have, subsequent to the immediately preceding month of October, passed the Class C or Third Examination under the present four-years' course, the subjects being pathology, materia medica, and hygiene, and the examination being a wholly written one. There was a regulation to the effect that "Passage of papers, reference to books or documents, talking or copying, will entail immediate dismissal from examination," and Professor McFadyean moved the deletion of such regulation on the ground that it was superfluous. The amendment was, however, lost, and the Walley Memorial Committee's report was adopted.

In replying to Mr. Mulvey, the Solicitor said that the examiners would be appointed at the next meeting of council.

*Parliamentary Committee.*

The Secretary read the report of the Parliamentary Committee, which stated that the solicitor had reported with reference to the Companies' Bill that the clause prohibiting medical professions being adopted by companies was incorporated, but without the words "veterinary surgeons." A circular had been addressed on the subject to every member of the House of Lords, and favourable replies had been received. The Medical Professions Bill was still pending, but there seemed no probability of either Bill passing into law this session. The committee also reported that the proposed standing orders had been settled by the committee, and drafts of them were distributed to the members of the council for consideration.

Mr. Cope: I may state that these proposed standing orders are presented to the council for consideration, and it is suggested that they be suspended for a period of three months for consideration.

Mr. Mulvey seconded the proposition, which was agreed to.

Mr. Cope then proposed the adoption of the Parliamentary Committee's report, which was seconded by Mr. Mulvey, and carried.

*Fellowship Examination.*

The Secretary read a letter from Dr. Fleming reporting that at the examination for fellowship degree, held in Edinburgh on May 20th, only one

candidate offered himself, bnt he failed to satisfy the examiners in his answers to questions, and was rejected.

*Report of Court of Examiners.*

The SECRETARY read the report from the Court of Examiners in Scotland, from which the following figures are taken. In Class (A) 35 students were examined, of which, in Glasgow, five passed, one with first-class honours and one with second-class honours, and two were rejected; and in Edinburgh 12 passed, five with second-class honours, and 16 were rejected. In Class (B), in Glasgow, two three-years' students presented themselves, and were rejected; seven four-years' students presented themselves, and all passed, two with first-class honours, and four with second-class honours. In Edinburgh six three-years' students were examined, of whom four passed, one receiving second-class honours. Of four-years' students, 34 were examined, 29 passed, four with first-class honours and 11 with second-class honours. In Class (C), four three-years' students were examined in Glasgow, of whom two passed. In Edinburgh seven appeared for examination and five passed. In Class (D) 31 students were examined, of whom 24 passed and seven were rejected. Three passed with honours.

Mr. TRIGGER: I beg to move :—

That the letters be referred to the Examination Committee, as usual.

Mr. WARTNABY: I should like to say that I attended the Written Examination in Glasgow as a delegate from this council, and in my opinion the examination was conducted in every way satisfactorily. There were at the time only about 30 students, but if at any time it should happen there are 45 or more, I have very great doubts whether the room is large enough to prevent the men sitting so close as not to be able to copy.

Mr. BARRETT seconded the motion, referring the letters to the Examination Committee.

Professor DEWAR: I wish to ask that the Secretary of the Board in Scotland be written to, to ask whether these examinations were conducted in accordance with the bye-laws. I mean, whether the consulting of the examiners, at the end of the examinations, before the marks of the students were made up, was according to the bye-laws and regulations of the college. It is better to get the facts direct from them.

Professor W. O. WILLIAMS: I believe you asked, Sir, for remarks on this subject, and I venture to make one little remark, viz., that it might be taken into consideration by this council at some future date that, instead of appointing two examiners for a subject they might appoint three—two to examine, and one to be a reserve examiner. The reserve examiner might be employed once a year, so as to get in the way of examining. It is a very serious thing indeed for teachers and students when both examiners are unable to be present, and two totally strange men are present—not only strange to the board, but strange to the R.C.V.S., strange to the teachers and strange to the students—this is a very serious thing indeed. I may point out that this has occurred, and at this last examination two of the regular examiners did not appear, and two substitutes had to appear, which, of course, rather interferes with the chances both of the teachers and of the students.

The PRESIDENT: That is a suggestion to the committee?

Professor W. O. WILLIAMS: Yes.

Professor MCFADYEAN, rising to a point of order, asked whether the discussion was not opposed to the spirit of the resolution.

The PRESIDENT said he asked for suggestions and the members of council were giving them.

Professor McFadyean wished to know whether the council were in order in instituting and carrying on a general discussion on the reports in view of the fact that they had been referred to the Examination Committee.

Mr. Simpson thought there should be no hesitation on the part of the members of the council in adopting the reports or the proposition which had been put by Mr. Trigger that they be referred to the committee.

On the motion for referring the reports of the examiners to the Examination Committee being put it was agreed to.

### *Election of Committees.*

The council then proceeded with the election of the various committees, and the following committees were constituted :—

President and member of all committees : Mr. J. Fraser.

*Registration Committee.*—Mr. Abson, Mr. Barrett, Mr. Bower, Mr. Carter, Mr. Dollar, Professor Edgar, Mr. Elphick, Mr. Hartley, Mr. Lawson, Mr. Mason, Professor McCall, Professor McI. McCall, Mr. Mulvey, Professor Penberthy, Professor Pritchard, Mr. Simpson, Mr. Trigger, Mr. Wartnaby, Professor W. O. Williams, Mr. Wragg.

*Examination Committee.*—Mr. Allen, Mr. Barrett, Mr. Cope, Professor Dewar, Colonel F. Duck, Professor Edgar, Colonel J. D. Lambert, Mr. Locke, Professor J. McFadyean, Professor McCall, Professor McI. McCall, Mr. Mulvey, Professor Penberthy, Professor Pritchard, Professor Shave, Mr. Simpson, Mr. Villar, Professor W. O. Williams, Mr. Wragg.

*Parliamentary and General Purposes Committee.*—Mr. Allen, Mr. Barrett, Mr. Bower, Mr. Cope, Colonel F. Duck, Mr. Dollar, Professor Edgar, Mr. Hartley, Mr. Mason, Professor McCall, Professor McI. McCall, Professor McFadyean, Mr. Mulvey, Professor Penberthy, Professor Shave, Mr. Simpson, Mr. Trigger, Mr. Villar, Mr. Wartnaby, Professor W. O. Williams, Mr. Wragg.

*Finance Committee.*—Mr. Allen, Mr. Abson, Mr. Barrett, Mr. Bower, Mr. Dollar, Professor Edgar, Mr. Lawson, Mr. Locke, Mr. Mason, Mr. Mulvey, Professor Penberthy, Professor Shave, Mr. Simpson, Mr. Trigger, Mr. Villar, Mr. Wartnaby, Mr. Wragg.

*Library and Museum Committee.*—Mr. Allen, Mr. Barrett, Mr. Bower, Mr. Carter, Mr. Cope, Mr. Dollar, Professor Edgar, Mr. Hartley, Professor McFadyean, Mr. Mulvey, Professor Penberthy, Professor Shave, Mr. Wragg.

*Publication Committee.*—Mr. Barrett, Mr. Dollar, Professor Edgar, Professor McCall, Professor McI. McCall, Professor McFadyean, Mr. Mulvey, Professor Penberthy, Mr. Simpson, Mr. Villar, Professor W. O. Williams, Mr. Wragg.

On the motion of Mr. Wragg, seconded by Mr. Abson, Messrs. Warner and Woodgar were re-elected auditors.

### *Motion by Mr. J. F. Simpson.*

Mr. J. F. Simpson : I rise to bring before the council a subject which has been referred to me on a previous occasion. It will be within your recollection that I introduced this subject at the last meeting of the council. The attendance at the council on the occasion when I introduced the subject was small, and, in view of what appeared to me to be the fact that the subject had not received the full consideration of all the members of the council, I asked permission to withdraw my motion, but on the distinct understanding that I should have the opportunity of bringing it forward again at a very early date. Sir, very much has been recently said in our veterinary journals, in the lay press, the ordinary press, in the Army press, the Navy press, the *Court*

*Circular*—papers of no mean standing, papers which voice the opinions of those in high authority, and the opinions of those who are competent to express an opinion on the subject. Reference has been made in one of these articles erroneously, though it has been corrected since, that the veterinary departments are agitating. I wish distinctly to say, as I said at the last meeting, that I have never had a single word in the way of correspondence from, nor have I addressed a single word of correspondence to, any active member of the Army Veterinary Department upon the subject. The Army Veterinary Department, therefore, may be exonerated from having in any way taken any part in what has been very erroneously called agitation. Gentlemen, I will read to you, if you will allow me, the opinion expressed in the *Court Circular*. It says: "There is no agitation on the part of veterinary officers in the Army, although such would almost appear to be the case from statements which have recently been published. Those officers are labouring under a sense of wrong, but they do not forget the soldier-like conduct and discipline for which they have always been conspicuous." Gentlemen, that is the character which the department deserves. It never has been guilty of agitation, and I trust it never will be guilty of agitation. It is not my desire to ask, and I hope you will not consider that I am asking you, to adopt any form of agitation on behalf of those who cannot speak for themselves. I am speaking in the presence of gentlemen who hold high positions in the Army, and it must be known not only to them, but to many others who sit round this table, that they cannot act in the Army for their own advancement as civilians can act for them. Gentlemen, this Royal College of Veterinary Surgeons, or rather this council, are now and always will be the guardians of the veterinary profession, whether they be members of the Army Veterinary Departments or whether they be simply civilians; and it is as much our duty to guard the interests of the Army veterinary surgeons as it is to guard the interests of any body of civilian practitioners who may be unfavourably affected by want of proper recognition. Now, gentlemen, on the last occasion it was said, "Better wait." Gentlemen, I withdrew my resolution, and we have "waited," and with what result? The question since our last meeting has been put to the responsible Minister in the House: "Does the Minister of War, or does the War Office (I forget which it was now) see its way to abolish the prefix 'veterinary' to military titles?" The answer was distinctly given that the matter had been fully considered, and that the concession, or rather the right, as I may put it, which we asked for had been refused. Gentlemen, it has been refused on two occasions when the subject has been brought before the proper authorities in that way. Now the question comes: Are we to adopt another course in order to bring this subject more prominently before those in authority at the War Office? And at this stage let me say that I deprecate anything like the putting of obstacles in the way of the War Office. I say that there is a legitimate and a proper way of doing the work, and I propose to lay it before you. This council has always done its work in that way, and what has been the result? We have always got what we asked for. When other methods have been adopted we have failed. Therefore I say, let us dismiss from our minds anything like coercion, anything like boycotting, which was referred to when the Army Medical Department were seeking to obtain what I ask you now to seek for our Army brethren. I say, let us dismiss all thought of it, and let us go to work in a proper and constitutional way. Let me remind you, gentlemen, of some of the things which we have taken under our care, and which we have succeeded in obtaining for the benefit of ourselves and other members of our profession. It is all very well to say "Wait," but there is an old saying that "Providence helps those who helps themselves," and you, I unhesitatingly say, will sit a long time before you will have some one so interested in you that they will come to you and say as a

body: "Surely you want this, surely you want that; will not you let us do it for you?" No, gentlemen. Were our Charters obtained in that way? Let me take you back as far as that. Did somebody come to those good men and true who obtained our Charter for us, and say, "You ought to have this?" Take our Act of Parliament, was it a voluntary act on the part of Parliament to give us an Act for our protection? No, gentlemen. It is to such men as General Sir Frederick Fitzwygram, Dr. Fleming, and many others who were taking an active part in the profession at the time, that we owe our success in obtaining our Act of Parliament. Why? Because we as a council showed to Parliament and to the public that it was necessary, and that it was only a proper recognition of our profession. Gentlemen, you have in your minds, doubtless, the fact that a President of the Board of Agriculture, Mr. Gardiner, abolished your Veterinary Department at the Board of Agriculture. Was that restored to you again without asking for it? No. How did you go to work to get the restoration of that department? You very properly made a very calm and proper representation to the President of the Board of Agriculture, and you got your Veterinary Department restored. You know that about that time great indignation was felt by a large number of veterinary surgeons who were acting for the Board of Agriculture that their scope of action was so limited, that they even christened themselves, I think it was, "Tripe-washers." Gentlemen, when a proper representation from this council was made to the head of the Board of Agriculture, what was the result? You got what you asked for. The duties and the responsibilities of the veterinary surgeon were extended, and will anyone say that that was not a step in the right direction? Much as I believe that Mr. Long is in sympathy with the veterinary profession, I question whether even he would have thought to suggest to you that you ought to have greater powers and responsibilities? Gentlemen, what have you done just recently? Take the Lord Chancellor's Bill, this Companies' Amendment Bill. There the Lord Chancellor left out the profession of veterinary surgery. Gentlemen, did you sit down quietly and say, "It is the wish of the Lord Chancellor that we should be excluded?" What did you do in the interest of civilian practitioners? You represented to the Lord Chancellor that the veterinary profession ought to be included. And what is the result? That profession will be included. Take the Public Health (Scotland) Act, gentlemen. There, was the veterinary surgeon ever placed in a more undignified and improper position than when that Bill was first drafted? Did you say, "It is the pleasure of Lord Balfour of Burleigh that veterinary surgeons should be excluded, and that only the medical profession should be recognised in the Bill?" No, gentlemen, you saw at once that an injustice was going to be done to the profession. What did you do? You asked me, in the first place, to go and interview Lord Balfour of Burleigh, and you subsequently sent a deputation, headed by Mr. Trigger, to make further representations to him. What was the result? You have got what you asked for. Now, gentlemen, what have you done even to-day? You know that veterinary surgeons have been excluded from acting as veterinary officers in yeomanry regiments. What did you do at the last meeting? You recognised that the veterinary surgeon was not placed in his proper position, and you petitioned the War Office to alter it. What has been done, gentlemen? You have heard the letter read to-day from the War Office, and the War Office grants you everything you asked for. Why have all these concessions been made? I say because those in authority recognise that we desire them, and I say it is but for you to-day to pass this resolution that I submit to you and to ask the Secretary for War to receive either a deputation or a communication from this council, and I venture to say that one or the other will be acceded to, and that you will have gone a long way towards the obtaining of what I believe is

in the heart, although it cannot be in the mouth, of every officer of the Veterinary Department. It cannot be in his mouth, because he, very properly, is under military discipline, and it would be highly improper for him to say one word on the subject either for or against. Just cast your mind's eye back to what you have had the opportunity of reading, and say, if you can, what reason, what earthly reason, there can be for the Army Veterinary surgeon to be one of an ear-marked department, for that, in fact, is the case. There is a non-combatant department in the Army that does not have proper military recognition by reason of the title assigned to it except—and there is the rub—except the Veterinary Department. Now, gentlemen, do you, as the governing body of this college, think you will be acting rightly in allowing this state of affairs to exist without, at any rate, saying to the Ministers of War, "Will you receive a statement from us in which we propose to lay before you the claims of the veterinary officers of the Army and the Army Veterinary Department?" Gentlemen, that is a question for you to decide. I put it to you that very much depends upon the action you take to-day, and how you deal with this subject. And if there should be—although I very much doubt whether there can be—any around who fail to recognise what I mean by the non-combatant department of the Army, I say your brother veterinary surgeon in the Army is not allowed to call himself a captain unless he puts the prefix before it. But the schoolmaster is, the Paymaster is, and other departments which I might mention. Gentlemen, it has been said by some, erroneously—and I am glad to know that some have acknowledged the mistake they have made in supposing that it was the case—that the Army veterinary surgeons are ashamed of their veterinary title. Imagine, gentlemen, a man who has once entered the veterinary profession, and more particularly a man who has entered the Army Veterinary Department, being ashamed of the word "veterinary" in front of his name. It is simply too ridiculous, and hardly worthy of a moment's consideration. I say that there is not a man in the A.V.D. who is not proud of the position that he holds as veterinary surgeon. Besides which, he is not dissociating himself from the Army Veterinary Department, even if the prefix is abolished. He will still be Captain Thompson, A.V.D., as much as ever he was before. Therefore where does the shame come in? I say not only is he not ashamed of it, but he is proud of it, and he claims, and very rightly claims, to be put on a level with other officers with whom he has to associate, and whom he has to call his comrades. Something has been said about "What's in a title?"

The PRESIDENT: I am sorry to interrupt you. I have a long list of resolutions here, and I am sure the council is with you.

Mr. SIMPSON: I can assure you, Mr. President, I am curtailing my speech as much as possible, and I will do so.

Mr. ABSON: The council is with you, Sir.

Mr. SIMPSON: I am glad of that. Now, Sir, some have said, "What does it matter what titles you hold in the Army? You are a veterinary surgeon, and there is an end of it." Gentlemen, as you know, Lord Lansdowne is the Minister for War. Hear what Lord Lansdowne has to say in regard to title. Lord Lansdowne says:—"It has been sometimes said, what does rank matter? Is not the title of 'Dr.' and 'Surgeon' by itself to be regarded as a title that anyone should be proud to wear without further adjuncts? I think," says Lord Lansdowne, "that in the Army rank is the outward visible sign of consideration and authority, and that it is necessary in the military profession that the man should have a military stamp to distinguish him and secure him his proper place among his comrades." Gentlemen, they are words from a high authority. Now, gentlemen, I do not want to attribute the scarcity of candidates for the A.V.D. to the fact that the veterinary surgeon is not treated

on an equality with his brother officers by the War Office. But it is nevertheless a fact that there is a great dearth of candidates for the Army. I merely refer to the fact, and I do not propose to refer to it in detail unless my statement is challenged, when I shall do so. Gentlemen, feeling that I am indebted to you for the long time that you have allowed me to speak upon this subject, I will not say more. I shall claim, of course, Mr. President, my right to reply to any remarks that may be made upon the subject, and I conclude by asking the members of this council to vote for the resolution which I formally move, viz :—

> That a deputation be appointed from this Royal College to wait upon the Secretary of State for War, for the purpose of laying before him the claims of the officers of the Army Veterinary Department to have the prefix removed from their military tiltles, and so place them on the same footing in this respect with the officers of the Royal Army Medical Corps, and other non-combatant departments of the Army. That in the event of the Secretary of State for War not seeing his way clear to receive a deputation, a committee of five members of the council be appointed to draw up and forward to the War Office a full representation of the facts of the case.

Professor PENBERTHY seconded the motion.

Mr. MULVEY: I simply rise to support the resolution, and to say that Mr. Simpson has made out so clear a case, and has so clearly and lucidly expressed it, that it is unnecessary for me to add anything at all.

The resolution was then put and carried unanimously.

Professor W. O. WILLIAMS: I beg to propose that a committee be now appointed in case the Secretary of War declines to receive the deputation, so that we can get on with the business.

Mr. LOCKE: We must appoint the deputation first.

The PRESIDENT: Professor Williams's is a good suggestion. We had better appoint a deputation and a committee. It is usual for the proposer to nominate the deputation.

Mr. SIMPSON: Well, sir, I propose that the President be one, and as you have intimated it is the usual thing for the proposer and seconder to form part of the deputation, I propose also Mr. Mason, inasmuch as he has had some military experience.

The PRESIDENT: To act as a deputation?

Mr. ELPHICK: To act as a deputation and committee.

Mr. SIMPSON: Both as a deputation and committee. I will nominate five. As Mr. Wragg was the seconder of this proposition when it proved abortive on the last occasion, I should like to include him: that is, the President, the proposer and seconder, Mr. Wragg, and Mr. Mason.

The resolution was then carried unanimously.

### *Obituary List.*

The SECRETARY read the obituary list.

### Re *Solicitor's Accounts.*

Mr. WRAGG: It will be within your recollection, Sir, I am sure, and the recollection of those members of the council who were present at the annual meeting, that Mr. Anderson made some remarks about the solicitor's accounts, and I then answered him, and said that I would ask the council if they would allow him to see the accounts, and I do so now.

The PRESIDENT: You ask permission?

Mr. WRAGG: I ask permission.

Mr. MASON: Certainly this is creating a precedent. It is laid down in our bye-laws that nobody but the president and members of the council shall have

anything to do with our books. I object strongly to anybody outside this council having anything to do with what I may call our office.

Mr. ABSON: The request is quite uncalled for on Mr. Anderson's part. I do not think we ought to grant it.

Mr. HARTLEY: I beg to second the request.

Mr. WRAGG: It is not a proposition, and I do not move it. I should be very sorry to move it. I should have been very much surprised if the council had granted it, but I said at the annual meeting I would ask, and I have asked.

Mr. ABSON: We will not grant it, sir?

The PRESIDENT: No.

The council then resolved itself into a special meeting for the purpose of considering certain motions placed on the agenda paper.

*Special Meeting.*

A special meeting was then held for the purpose of considering certain notices of motion placed on the agenda paper by various members of the council. Mr. J. Fraser again presided, and the members present were the same as at the quarterly meeting.

The first motion was by Professor MCFADYEAN, and as he considered the agenda paper contained a number of proposed alterations of bye-laws, doubtless involving considerable discussion, he contented himself with formally moving the resolution, reserving to himself the right to reply upon the discussion. He therefore moved:—

> That at the quarterly meeting held in July in each year, the council shall fix the date of the membership examinations to be held during the following December, May, and July, and the dates of the quarterly meetings of council to be held during the following October, January, April, and July.

Mr. MULVEY seconded the motion.

Professor WILLIAMS: I rise to support Professor McFadyean's motion, but I am rather afraid that if it is passed to-day it will not come into operation until next July. I presume we have held the usual quarterly meeting for July?

Professor MCFADYEAN: I am afraid that it so.

Professor WILLIAMS: I am afraid so. Could not Professor McFadyean get the consent of the council to make the fixture to-day?

Professor MCFADYEAN: That, I think, would be bound to come as a separate motion, and if Professor Williams would move it I would strongly support it. I think it is important that our business should be arranged a little in advance, but, like Professor Williams, I foresee in the event of this being passed the alteration requires confirmation, but I do not know whether there is anything to forbid the council on this occasion fixing these dates.

The resolution was then put and carried.

Mr. ABSON: Can we not fix dates now?

Professor MCFADYEAN: I should like to ask, Sir, if you have decided that it would be beyond the power of this council to give effect to what is obviously the general feeling of the council if once put?

The PRESIDENT: I think we had better follow the usual course in things of this kind.

Professor WILLIAMS: May I ask, Mr. President, if it is in order for me to give notice of motion that these dates for the forthcoming year be decided at the October meeting?

The PRESIDENT: That is in order.

Mr. ABSON: That will do as well.

*Motion by Mr. Elphick.*

The PRESIDENT: As Mr. McFadyean's resolution has been carried, yours, Mr. Elphick, is hardly necessary; you had better, perhaps, withdraw it.

Mr. ELPHICK: As the resolution by Professor McFadyean really covers the ground of the one standing in my name, with your permission I will withdraw mine.

The council consented to the following motion in Mr. Elphick's name being withdrawn: "To alter bye-law 7."

*Motion by Professor Dewar.*

Professor DEWAR: I am very pleased to observe the way in which the business of the meeting is going on, and I hope it will continue. The motion which I rise to propose is:—

> That Bye-law 52 be altered as follows: That students who enter the veterinary schools shall, prior to their first professional examination by the Royal College of Veterinary Surgeons, produce a certificate which would have entitled the holder to be registered as a medical student on June 30th, 1896, and a certificate of having passed an examination equivalent to an examination the certificate of which would have been accepted then shall be accepted until this bye-law is altered or revoked.

The reason for my bringing forward this motion is that the General Medical Council considered that the examination all over the kingdom would be on an equality. The council did not provide for any alteration or change that might take place. The bye-law was passed in all good faith. But one cannot expect that things are going to stand still, and we must also move with the times. We find that the General Medical Council bave raised the standard of the examinations required for the registration of medical students, that the only examination that our students have been in the habit of passing for many years in Scotland is the examination of the Educational Institute. This examination has been arranged to suit the requirements of the General Medical Council. The examination taken by the majority of the students in England happens to be the examination of the College of Preceptors. The examination of the College of Preceptors is not required to be raised, in so far as the General Medical Council simply expects that the students will pass in a higher standard. The examination is first in the same standard, and the students can pass in the examination and obtain certificates such as were accepted in 1896. I have not the slightest doubt that this council, when they see there is that unfairness in it, will see that the matter is remedied. I do not think it requires any further explanation from me, and I may say that that is the reason for suggesting the change which I have proposed. I am sure that every one here will see that there is a necessity for that, that the examinations should be equal. I beg to move this alteration of bye-law.

Mr. ABSON: Has not a similar alteration of bye-law been proposed before?

Mr. SIMPSON: It is a suoject which wants consideration and formulating, but by way of formality I second it.

Mr. ABSON: Has not a similar notice of motion for alteration of bye-law been proposed before by Professor Dewar?

Professor DEWAR: Not a similar motion, but the same bye-law has been altered.

Professor MCFADYEAN: I should like to be allowed to explain the effect of passing this bye-law. I am, of course, subject to correction by Professor Dewar if I mislead this council. If this alteration commends itself to the council, then there will be instituted for the first time a special examination for veterinary students. It would compel the council, assuming that they are

satisfied that the special examination carried out by the Educational Institute of Scotland was of a similar grade to the examination which they have conducted in the past, to accept that certificate although held only for veterinary students. Now it might be said, if they were satisfied that the examination was of the same grade, there is no reason why we should not accept it, although only veterinary students sat at the examination. But I think the council will see that it is a certain guarantee that the standard of the examination is kept up when other students than veterinary students are examined at the same time, and on absolutely the same papers. We have not at the present time any special examination for veterinary students. We have a large number of examinations at which intending veterinary students can submit themselves. Take for example the College of Preceptors' examinations, for which many intending veterinary students sit. They never get a special examination; they have to sit at one of the ordinary examinations. They have to answer precisely the same questions as other candidates, and they have to take the same proportion of marks. I think that in a certain measure reassures this council that the standard of the examinations is being kept up. But we know—and I think it is quite a legitimate thing to remind the council of it—that this Educational Institute of Scotland, or certain officers in it, have upon former occasions asserted that the standard we have set up is ridiculously high. I say that an officer of the Educational Institute of Scotland did express the opinion that the standard we have set up is ridiculously high. We are now going to hand over to that body, if this is passed, power to examine our students. Then I can foresee that there will be endless discussion around this council table, as to what is a certificate of having passed an examination equivalent to an examination the certificate of which would have been accepted. It would almost require the powers of an American lawyer to know precisely what that means. But, at any rate, we would have presented to us particular certificates that are not included in our list, and we would be asked to accept them as equivalent to certificates that we had accepted. Now I think that is not the proper solution of the difficulty. I think if it is an inconvenience to the Scotch schools, and if the Educational Institute examination is no longer one available for them, then they must fall back upon one of the English bodies: the College of Preceptors, for example, to examine their students. But if, in spite of the objections to this alteration, the council feel inclined to pass it, then I think it would be better that the council should arrange to take the examination into its own hands, and carry out simultaneously in England and Scotland a special examination; but I think the best thing is to leave things as they are.

Professor WILLIAMS: I might state, Sir, with your permission, that a number of years ago the Council of the Royal College of Veterinary Surgeons determined to raise the standard of the preliminary examination, and in doing so they selected a large number of bodies whose certificates they would accept. We did this for the purpose of placing ourselves as nearly as possible on an educational level with the medical profession. We have maintained that level as nearly as possible. If this alteration were made as suggested, the result would be that we should make a retrograde step. There is no doubt about it that those interested in colleges did not at that time see the very great deal of damage that was going to be done to the schools. They were loyal to the council. They were ambitious for the profession to be raised in status, and they overlooked the fact that the percentage of rejections was going to be so large. As a member of the profession, and as a member of the council, I do not desire to see our educational examination made any less severe than it is at the present time. As one interested in the colleges, I should like to see it very much easier, so that the colleges could

be filled with students. I can say without doubt that the colleges in Scotland are making little or nothing out of their teaching, and I may also say, and be very near the truth, that they have in them a little more than half the students they used to have since the four-years' and the difficult preliminary examinations came into force. If this alteration were made by the council, it would be simply a matter of helping those who are suffering very severely. The colleges are suffering very severely indeed, but I, for one, do not ask the profession to extend their sympathy by filling the colleges with inferior men.

The PRESIDENT: I think now would be the time to read this letter of Professor McCall's as bearing on the subject, and I will ask Mr. Hill to read it to you.

The SECRETARY: The following is the letter:—

Dear Sir,—As my professional engagements will not permit me to attend the meeting of the council to-morrow, I write you to make my apologies, and also to state that if present I would have voted for the alteration of Bye-law 52 as moved by Professor Dewar.

I was present at the meeting of council when it was arranged to advance the educational test to that of the then existing medical, and it was most distinctly understood that no further advances would be made in that direction until the bye-law was revoked. I remember hearing it proclaimed—"We will not in this matter be dragged at the heels of the medical profession," but I assert that in Scotland we have not only been "dragged at the heels of the medical profession," but for the last twelve months the educational test has been actually advanced 25 per cent. as compared with that which existed in 1896. Before voting on this subject, I would respectfully suggest that each member of council will call to remembrance what has been the effect of the bye-law 52, namely, the exclusion of two-thirds of the students in Scotland, and of the impoverishing of the colleges to the extent that they are not now as teaching institutes self-supporting, and must be closed if relief be not given.

I am, yours truly,
(Signed) JAMES MCCALL.

Professor DEWAR: Mr. President and Gentlemen,—I am a little disappointed and surprised with the remarks which have fallen from some members around this table in connection with this motion. I am sure there is no one here who wishes to uphold the preliminary examination more than I do, and to say that this motion I have brought forward contemplated a retrograde step as far as that examination is concerned, is not true. I simply deny it. There is no intention of doing that on my part. The Scotch Educational Institute is quite willing to submit the examination papers to this board at the time, and what I ask for is fair play, and that the students be placed on an equality as far as the examination is concerned. At present I say they are not. It is not fair that we should be asked to send our students to England for examination, which was not a thing contemplated by this council when the bye-laws were passed. They are quite willing to hold the examinations as they were held in 1896, and quite willing that our students should be examined under it, and I think as a matter of fair play the council are bound to do something.

Mr. LAWSON: I would like to ask Professor Dewar one question. What is the proportion of students who attend the Edingburgh and Glasgow Colleges? Are the majority from England and Ireland, or are they all from Scotland? You suggest they have to come from Scotland to England to be examined. The question to me is whether the majority do not come from England now. I should like your interpretation of that.

Professor DEWAR: I cannot tell you the exact proportion of students, or anything like it; but even supposing they are coming from Newcastle, to have to come down here to pass your examination, and then come up to Scotland, would be a hardship, and it would be very much better to pass their examination when they came up to the colleges.

On the motion being put, it was lost.

*Motion by Mr. Wartnaby.*

Mr. WARTNABY: I need hardly remind you that a resolution was brought forward by me about 12 months ago to carry out this object, that the examinations in materia medica, etc., should be of a practical character. I believe it was the unanimous wish of this council that that should be so, and the representative of at least one school very kindly said that in his establishment every facility should be afforded for carrying out the examination in a practical way. This has been tried, and some little difficulty has been found on the part of the examiners in carrying it out, inasmuch as the time, 15 minutes, has been considered insufficient. It was suggested to this council by them that this alteration should be made:—"At the oral examination two students shall present themselves at the same time, and shall be examined for 15 minutes by each examiner." If this is done, exactly the same number of students will be examined by the examiner in the same amount of time, and the object desired will be obtained. I cannot help feeling that it must be the wish of this council that the examination should be carried out, as far as possible, in a practical way. I know it is the wish of a very large number of the leading members of the profession, and besides that, you have the wish of the examiners themselves. Gentlemen, with such strong evidence in support of this resolution, I feel I need hardly say more. I therefore move:—

> To alter Examination C, clause 2, to read as follows: Materia medica, practical pharmacy, therapeutics, and toxicology. Written, two hours; oral, 30 minutes. At the oral examination two students shall present themselves at the same time, and shall be examined for 15 minutes by each examiner.

Mr. SIMPSON: I have for some long time felt that it was necessary for some such alteration to be made in this bye-law as affecting the examination, and I have been unable to support the proposition which has been made by Mr. Wartnaby before, because he had not provided for the extension of time in the alteration. But now that he has provided for the extension of time in the alteration, I have much pleasure in seconding it.

Professor MCFADYEAN: I should like also to indicate to the council what the effect of this alteration will be if it is carried. There was a time when this council endeavoured to have its examinations conducted on what might be called the one man system. That was the time, I think, when there was felt to be a necessity for retrenching the expenditure of the corporate body. There most certainly was a time, I repeat, in response to a shake of the head from Mr. Wragg, when the examinations on particular subjects were conducted by single examiners. The council, after very careful deliberation, resolved that that was not a safe system of examination, and that the safe examination of a student demands that he shall be examined conjointly by two examiners. I think it is the desire of this council that our examination shall be conducted in conformity with that principle. They are so conducted, and have been so conducted with reference to materia medica. Mr. Wartnaby believes that the time allotted to the examination of students in materia medica is not sufficient, but does not propose that the evil shall be removed by the proper remedy, which, in my opinion, would be to extend the time of the two examiners. He proposes to leave the time as before, but the students, instead of being examined conjointly, are to be examined separately. Am I misrepresenting you, Mr. Wartnaby?

Mr. WARTNABY: Examined in the presence of each other. May I explain what I do mean? A man is examined for fifteen minutes. Fifteen minutes is given to each man for his examination. Two men at that rate are examined in thirty minutes. If the two men go in together one man has a quarter of an hour at the practical work, while the examiner takes the other at the oral.

When the fifteen minutes are up, the man who has been doing the oral goes through the practical, and the man who has been doing the practical goes under the oral—that is, you get the two men in thirty minutes, which means one man for each fifteen minutes.

Professor McFADYEAN: It may be stupid on my part, but I do not think Mr. Wartnaby has explained whether a student is to be examined the whole time by two examiners.

Mr. WARTNABY: He is to be examined the whole time.

Professor McFADYEAN: By two examiners conjointly?

Mr. WARTNABY: No.

Professor McFADYEAN: I have got a plain answer to a plain question. The answer is No. I believe there is not a single examiner in any subject who does not maintain that the time allotted to him by this council is too short. Examiners in pathology think it is too short. To be consistent you ought to allow them to do the same thing. Has the council any objection to their going into pathology at once? One can be examined by one examiner, and another may be simultaneously examined by another examiner. It is worth consideration, as it would save 50 per cent. of the fees, but you will destroy the confidence the students themselves have in the examination. I strongly object to the remedy being applied in this way. If the time allotted for the testing of the knowledge of the student in materia medica and pharmacy is not enough, extend it without departing from the principle that the student shall be examined conjointly by two examiners.

Mr. MULVEY: I think I can explain to Professor McFadyean what Mr. Wartnaby meant to convey.

Professor McFADYEAN: It is not necessary, sir; I perfectly understand.

Mr. MULVEY: Allow me to finish—that is, that the examiners should put one of the students to work at dispensing, and that while he is doing that dispensing the two examiners should examine the other student for a quarter of an hour. They can then see the result of that work after dispensing, and the other can come on.

Mr. WARTNABY: I thought that was what I said, Mr. President.

Mr. BARRETT: I should like to ask whether anyone understands this bye-law, because I must confess I do not. "Materia medica, practical pharmacy, therapeutics, and toxicology. Written, 2 hours; oral, 30 mins. At the oral examination two students shall present themselves at the same time, and shall be examined for fifteen minutes by each examiner." That is the point. The bye-law ought to read: "That each student shall be examined for fifteen minutes by each examiner." The real English of the expression is this: "At the oral examination two students shall present themselves at the same time, and two students shall be examined for fifteen minutes by each examiner."

Mr. WARTNABY: I may say that the latter part of this motion, to which Mr. Barrett takes exception, is, I believe, verbatim, as the examiners themselves requested it to be put by this council. That is my explanation.

The motion was then put and carried, five voting for and three against.

### *Motion by Mr. Dollar.*

The PRESIDENT: Mr. Dollar is not present, and his motion, therefore, cannot come on. The motion was as follows:—

> That no person who has nominated a candidate for election to council shall act as a scrutineer for the counting of votes at the next ensuing election of members of council.

### *Votes of Thanks.*

Mr. SIMPSON: Before we separate there is a small detail which, although it comes after the report of the examinations, is nevertheless a very proper one

on this occasion. I should like to ask the council to accord a vote of thanks to the principals of the colleges for allowing the use of their schools for the examinations.

Mr MULVEY: I have very great pleasure in seconding that.

The resolution was carried unanimously.

Mr. TRIGGER: I beg to move a vote of thanks to our new president for the admirable manner in which he has conducted our business at this meeting.

The motion was carried with acclamation.

The PRESIDENT: Thank you, gentlemen.

*Notice of Motion by Mr. J. H. Carter and Professor W. O. Williams.*

"That at the quarterly meeting of the council in October, 1899, the council shall fix the date of the membership examination to be held during the following December, May, and July, and the dates of the quarterly meetings of council to be held during the following January, April, and July."

The sitting of the council then concluded.

## THE CENTRAL VETERINARY MEDICAL SOCIETY.

AN ordinary general meeting was held on Thursday night, the 6th July, at the Royal College of Veterinary Surgeons, 10, Red Lion Square, W.C., Mr. J. Sutcliffe Hurndall, the president, occupying the chair.

There were present:—Messrs. A. L. Butters, J. Rowe, J. K. Bruce, H. Singleton, S. H. Nye, H. A. MacCormack, Major J. A. Nunn, W. E. Taylor, F. O. L. Walpole, R. Porch, A. E. Payne, P. W. D. Smith, B. A. Nunn, W. L. Harrison, S. H. Slocock, J. Baxter, Major J. Phillips, S. Villar, L. Barrett, H. King, W. F. Barrett, W. S. Mulvey, and three visitors.

On the motion of Mr. MACCORMACK, seconded by Mr. TAYLOR, the minutes of the preceding meeting were taken as read.

A letter of regret at inability to attend was read from Major Moore.

Mr. HUNTING said he should like to refer to a letter which was read at the last meeting and allowed to lie on the table. It was a letter inviting the Central Veterinary Medical Society to send a delegate to the Veterinary Conference at Southampton in connection with the Sanitary Congress to be held there in August. He said he thought the society could hardly refrain from appointing a delegate to attend this congress when questions of public health affecting the veterinary profession would be up for discussion, and he would have pleasure in moving that Mr. Butters, their worthy treasurer, should be asked to represent the society at Southampton.

This was seconded by Mr. W. E. TAYLOR, and unanimously carried, Mr. BUTTERS intimating that he would have no objection to act as delegate.

It was unanimously agreed that Mr. Butters' travelling expenses should be paid by the society.

The CHAIRMAN then called upon Mr. Hunting to give his paper, which they were all anticipating with pleasure.

Mr. HUNTING: I notice that you use the word "anticipate" in reference to the paper. As a matter of fact, I have no paper, only a few notes. I daresay you can quite appreciate the difficulty of finding time at a busy season to write a paper at short notice for this society.

### THE NEED FOR STATE CONTROL OF BOVINE TUBERCULOSIS.

BY W. HUNTING, F.R.C.V.S.

In discussing the question of "The Need for State Control of Bovine Tuberculosis," there is no absolute need to begin with first principles. We

have 30 years' experience of State interference with cattle disease, and tuberculosis differs from none of these diseases more than each differed from another. We have heard it said by those opposed to any attempt to control tuberculosis that "to make regulations for stamping out tuberculosis as were made for dealing with cattle plague and pleuro-pneunonia would be foolish and impracticable." This is a self-evident truth to those who understand the different contagious diseases and the measures necessary for control. But it is a misleading statement, and one that suggests a falsehood to the general public The same regulations did not apply to cattle plague and to pleuro-pneumonia. Quite different measures to either were applied to foot-and-mouth disease, and with success. The regulations for rabies and glanders are a variation on those four other diseases mentioned, and, of course, each disease has some individual characteristics which require modification of the rules for its extinction. All contagious diseases have a common basis upon which regulations must depend. All require special measures to detect them, to check their spread and destroy their virus. There is no contagious disease of animals which could not be stamped out in this island. There may be some which it is not worth while to interfere with, and there may be some which would entail a cost quite disproportionate to the loss they cause. Tuberculosis is in neither of these classes.

*Why should a State attempt the control of any contagious disease?* Firstly, I take the answer to be, to save national loss, and, next, because the individual cannot himself do it. In the days of cattle plague we were threatened with the extermination of our herds, and the danger was such that one of the principal food products of the country was seriously threatened, and the public put to great inconvenience. The loss was so great that everyone in the country who consumed meat suffered indirectly. The cattle plague was, therefore, tackled by the Government. Regulations were made which interfered with the individual all over the country—large sums were spent in inspection and paid for compensation. The result was that in less than two years the disease was absolutely stamped out.

During the short time which it prevailed the country lost £5,000,000 of stock, but the cost of stamping out was certainly not more than 1-20th of that. It therefore paid the country to take these measures. Having stamped out cattle plague, pleuro-pneumonia was included in the "Act." First of all, the local authorities were supplied with permissive measures—in course of time the disease became considerably reduced, and then the central authority stepped in, stamped out the few remaining cases, and took the credit.

Foot-and-mouth disease was also included in the "Act." Permissive measures carried out by local authorities were adopted for years. Someone was artless enough to say that the disease had become acclimatised to this country and could not be stamped out — nearly the same words as the Board of Agriculture are now using with regard to swine fever. Fortunately, there followed a very extreme prevalence of it, and the Royal Agricultural Society, having a better knowledge of it than the Government Veterinary Department, petitioned and agitated for restriction, and stringent measures were put in force. I notice in passing that the regulations in respect to foot-and-mouth disease are not the same as for pleuro-pneumonia; nor are those applying to the latter the same as for cattle plague.

Rabies is now being rapidly stamped out, and I want to ask why it is included in the Contagious Diseases Act. We often hear from the Board of Agriculture that their business is only with agricultural animals. The danger to sheep from dogs affected with rabies would hardly be looked upon as sufficient excuse for the measures that have been adopted. It is

true that the Board has shown great common sense in the measures enforced, but they are simply and solely in action because of danger to human beings. If you accept the argument that a disease like rabies should be tackled by the State, you must show cause why regulations should not be adopted in reference to any other disease dangerous to man.

*Why should the State take the control of tuberculosis?* One reason is because of its danger to men. It is a disease that kills more people than any other disease, and a large number of cases are undoubtedly due to infection from diseased animals. If it is right for the Board to stamp out rabies in order to protect men, it would be equally right for them to attempt to stamp out tuberculosis. At the present time the reply of Government officials would probably be that there is no necessity for the Board of Agriculture to pass measures for the protection of man because the Local Government Board have instituted measures which look after infected meat and milk. My reply is that they have gone the longest way round to achieve their end, and that no certainty accompanies their action. The right way is to go to the source. The only logical way to protect man against infection from cattle is to stamp out the disease in the animals themselves—not try fiddling with meat and milk, with reference to which a whole army of inspectors would be required to do any good. There would be no difficulty in the Board of Agriculture controlling it at its source. Cattle plague was brought under regulation by Government owing to the national loss it threatened. Now the national loss of cattle from tuberculosis is very great. I will not go into details, but surely the number which die of the disease is sufficient in itself to make it worth while to control. I don't want to be political, but I cannot help this little allusion. The Government seems to be extremely fond of class legislation. A little for the parson, a little for the landlord, and anyone else you can get votes from. I want to suggest that the present law is a piece of negative class legislation. The only two persons affected by the law are the butcher and the milkman. Now these two classes are absolutely at the mercy of the agriculturist—the breeder and feeder of the animals. They have to buy their animals from these men. The law offers them no protection whatever. They have no other source from which they can get their cattle, and the farmer can go on propagating tuberculosis amongst his stock, and not be in any way a sufferer thereby. The law lets off a man who is primarily responsible for the spread of the disease, and fines the two wretched individuals who cannot carry on their business without buying diseased cattle. I think there is an argument which ought to appeal to the agriculturist. You will remember that pleuro-pneumonia, only a few years ago, was paid very little attention to. Pedigree men and landowners (who constitute the Royal Agricultural Society) paid very little attention to the small tenant farmers, so long as their own toes were not trodden on. But the time came when foreign countries who had been giving large prices for pedigree stock made up their minds that this island should no longer infect their countries. These other nations said: "We have had enough of this. In future no animal shall be imported into our country from England unless it comes from a district where pleuro-pneumonia has not existed for some time." Those in authority immediately wakened up to the fact that this would seriously affect the country, and were very anxious about the interests of the "small tenant farmer" all of a sudden. The Government thought votes would be lost if something were not done, and prompt measures were taken, so that out of evil came good. Bearing that little history in mind, could we not anticipate something of the same sort with regard to tuberculosis? Many countries have now blocked the entrance of tuberculous cattle into the borders by requiring the tuberculin test to be applied, although that test applied to an animal just landed is very uncertain.

If breeding in this country is to pay any more it is only the best animals that will be bred. If a man breeds pedigree stock he can get a long price from foreigners. Surely he will assist in stamping out tuberculosis if he sees by so doing that he will have an unrestricted trade all over the world.

That there is a present need for State interference with tuberculosis is demonstrated by every argument that applied to the other diseases scheduled in the Diseases of Animals Act. There are difficulties, of course, but these may be overcome. Because they exist is surely no argument for not dealing with them. There were difficulties to be faced with these other diseases, and when they were properly tackled they went down before the regulations in a very short time. It occurs to me that the Board of Agriculture are so sick of their failure in connection with swine fever that they are not keen on tackling other diseases. As soon as they put necessary restrictions upon any district, the member of Parliament for that district is approached by the farmers, etc., and he goes to the Board of Agriculture and complains, so the Board withdraws the restrictions. What happens then? The disease immediately begins to spread again, and the district is very soon as bad as ever. I can't understand how Parliament tolerates a governing department which acts in such a manner as the Board of Agriculture. One dangerous disease they ignore because they are afraid to touch it, and on the other they spend £150,000 a year, and get no further in its control because they fail to enforce what they know is right.

The difficulties in the control of tuberculosis have, I think, been grossly exaggerated. Not long ago a Royal Commission was held to inquire into the danger to man from tuberculosis. The first witness who was called was the secretary of the Board of Agriculture, and he assumed that the stamping out or the control of tuberculosis would necessitate the slaughter of every animal that reacted to tuberculin—an assumption for which he had no ground whatever. No responsible person has ever made such a suggestion. He was put up to say that it would cost about £2,000,000 a year to stamp it out. This is nothing but a bogey to frighten people.

A little while ago the President of the Board told a meeting of farmers that there was "insufficient scientific basis for the formation of any regulations for the control of tuberculosis. They did not wait for "a scientific basis" for pleuro-pneumonia, cattle plague, etc. There is, I venture to say, no disease known in which a larger scientific basis exists for stamping out and control than tuberculosis. We not only know it is a contagious disease, but we know exactly the cause, have traced the bacilli, know exactly how it grows and spreads, we can recognise the disease in every stage—and yet the President of the Board of Agriculture has the audacity to say that there is "insufficient scientific basis for the formation of any regulations for the control of tuberculosis." I say that a more incorrect statement never was made. Then I was utterly astonished to read in the very first lines of an article by a man for whom I have the greatest respect—Professor M'Fadyean—that the more we know of the disease, the more we note its prevalence and the difficulty of dealing with such a widespread malady.

What should we think of a man who had a field full of thistles, and said, "There are so many I must wait awhile until they are only a few, and I will then get rid of them?" Fancy using such an argument—that because of the great prevalence of an evil it is no good doing anything.

Then with regard to the enormous cost theory. This depends entirely upon what measures are adopted. If you try, as they did in Belgium and Massachusetts, to attack the disease by tuberculin and slaughter, it would be an enormous cost. The cost of any rational attempt would not at any rate be greater than that incurred for swine fever, and if considered right for this

disease would be ten times more desirable for tuberculosis. If swine fever cost £150,000 a year you might add another cypher, and then it would not be too much to pay for the extermination of tuberculosis.

We are told that the agriculturists have not asked for protection against tuberculosis. When did they ask for protection against any disease? Did the agriculturist ask for protection against cattle plague? Not at all. They knew nothing about it. Mr. Cope and Major Tennant both say if swine fever is to be controlled very much more restrictive measures must be enforced, and they go on to say it will then become a question whether the owners of pigs will put up with the restrictions. The British Government enforces law and pays money, because it wishes to put a stop to a national loss, and not because pig-owners are willing to accept it. I would suggest that it is an entirely vicious argument that the agriculturist does not want control because he has not asked for it. He must not be the sole judge of what restrictions he will put up with. Suppose he had been consulted during the cattle plague—how much cattle would have been left in this country? Farmers would object to restrictions for tuberculosis, we are told. So did the dog-owners to restrictions for rabies. Mr. Long ignored them utterly. What is good for the dog-owner is good for the cattle owner, and if either won't stand restriction, Mr. Long should make him. Then we are told that probably local authorities would not co-operate. This is like the "wolf and the lamb." The local authorities have done all that has been done for tuberculosis. Some eighty private Bills have been introduced into Parliament to control and do something for the protection of man against tuberculosis. All that has been done has been initiated by local authorities. The central authority has obstructed, done nothing itself, and then said there was insufficient scientific basis for action.

Now, unless I have been guilty of misreading the facts or of drawing wrong conclusions, I think it may be considered as established that the control of tuberculosis is necessary for the national welfare and for the good of agriculture, as well as to do justice to the butcher and dairyman. I suggest that the control of the disease is quite possible—quite as possible as to control glanders. Glanders, I contend, has been tremendously controlled. I have no doubt that had there been no regulations regarding same, we should have nearly as much now as we had twenty years ago. It is not merely the education of the public, not merely the education of the veterinary surgeons, which has led to the suppression of diseases such as this, but it has been the existence of a controlling law. A law, even a mild one, which would only slightly control tuberculosis would itself be an educational means of awakening the stock-owners to their danger. Some ten years ago, you will remember, there was some agitation on the part of the agriculturist. The Central Chamber of Agriculture petitioned the Government about this very disease. The department concerned appointed a committee, and that committee reported unanimously in favour of taking control of tuberculosis. In those days Sir John Brown was at the head of the Board of Agriculture. He had made his name, but he did not want to run any risks. He recognised the difficulties in the way, and stated them ably and well. The one he dwelt on most was the inability of the veterinary profession to diagnose the disease. At the International Congress in London on Tuberculosis, Professor Burden Sanderson referred to the control of the disease in animals, and that was the only reason he could adduce for doing nothing—the impossibility of diagnosing the majority of cases. If there were any other reasons, why were they not produced then? This was a good reason in those days, and it was quite enough to block any action. It saved Professor Sanderson from encouraging the Government to make a step forward, and it saved Sir George Brown from initiating anything which might not have been a success. Now

we have tuberculin there should be no difficulty. The old objection of 10 years ago has been removed, but still nothing is done. Objection has to be found in other directions now.

These are the reasons that I offer you for my belief that there is need in this country for some legislative attempt at the control of tuberculosis. I suggest that the disease should be scheduled in the Diseases of Animals Act for the purposes of—compulsory inspection; for the regulation of the movements of infected cattle; for the slaughter of diseased animals; and for the payment of compensation. The only argument against this that I have heard is—"What do you think you are going to do by this?—You propose to slaughter all the visibly infected animals and leave the others: how much further will you get? Professor Bang went a long way further. He separated all those that reacted to tuberculin. He repeated this every year for five years, and at the end of that time he "still had tuberculosis in the herd." Five years, gentlemen, is not a long time in which to stamp out such a disease. If we were able to do it in 15 we ought to be well pleased. And it does not at all follow that we should do nothing with the large number of animals which have the disease in them, but not visibly affected. I believe that there are, as in glanders, hundreds and hundreds of cases infected, but non-infective to other animals. There is not the danger from the case which has a few nodules on the lungs or the liver. The animal which is dangerous and spreads the disease is the one visibly affected. These are the animals which are dangerous to other animals. If we caught all these, there would be an immense decline of infection.

*What precedent have we for State Control?* There are no two diseases so much alike as glanders and tuberculosis. The British Army was reeking with glanders some 40 years ago. They did nothing but slaughter the clinically affected, and they stamped the disease out. If there is a great analogy betweeen the two diseases, would there be a like extinction of tuberculosis if we slaughtered the clinically detected cases? I feel sure this course would have a great effect in reducing the disease at a small cost, and in educating the stockowner. It could be developed gradually, as was similar legislation.

## SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

THE annual summer meeting of the Scottish Metropolitan Veterinary Medical Society was held at Forfar on Saturday, June 24th. On arriving at Forfar the members proceeded to the residence of Mr. T. M. Inglis, the president of the society, where they were entertained to light refreshments. They afterwards witnessed a very successful operation of monorchid castration upon two young horses by Mr. Inglis, assisted by Mr. Andrew Spreull, F.R.C.V.S., Dundee. Among those present at the operation were Professor W. O. Williams, New College, Edinburgh; Professor J. Hunter, Edinburgh; Professor McLauchlan Young, Aberdeen; Dr. Wedderburn, medical officer for the county of Forfar; Dr. Peterkin, medical officer for the burgh of Forfar; Councillor Lowson, Forfar; Ex-Provost Sandeman, Kirriemuir; Mr. A. S. McArthur, M.R.C.V.S., Perth; Mr. John Cameron, M.R.C.V.S., Berwick-on-Tweed; Mr. Peter Moir, M.R.C.V.S., Edinburgh, hon. secretary; several of the students attending the New College; and Mr. Fairley, Drowndubbs, and Mr. Pitullo, Baghall, the owners of the horses operated upon. Afterwards the company proceeded to the Royal Hotel, where they sat down to dinner under the presidency of Mr. Inglis.

The usual loyal toasts having been duly honoured,

Professor OWEN WILLIAMS proposed "The Medical Profession." He said they did not look upon the medical profession as their younger and prettier sister, but certainly as their elder and much more mature sister, and to the members of that profession they owed a very great debt of gratitude. Many years ago the professors of medicine in the Edinburgh University greatly assisted the late Professor Dick in educating the most prominent veterinary surgeons in the country at the present day. He looked upon medical men generally as those who were responsible for the health of the whole of the public, and included in the public he meant the animals that the public fed upon. He was of opinion that the medical officer of health in all districts should be the superior officer in regard to health and disease, and that his assistants should be the principal veterinary surgeon, to look after the cattle and sheep, and so on; the chief sanitary inspector, to look after the drainage and the ventilation and so on; and the food inspector, to look after the various foods and see if they were adulterated.

Dr. WEDDERBURN, in replying, said they felt proud to have a brotherly or sisterly connection with the veterinary profession. He supposed that as the elder sister they could domineer a little over the junior. He found, however, that the veterinary profession of the present day was in many things leading the way. In the matter of tuberculosis, and several other of these infectious diseases, they had had very valuable investigations carried out by the veterinary profession, and he thought these had done a great deal to let them understand better their duties as medical men, especially as the medical officer of health. He supposed they had invited Dr. Peterkin and himself because they were the representatives of the county and burgh. They both agreed with Professor Williams in the criticism of places assigned to the various sanitary authorities. It would be very presumptuous in them as medical officers of health to suppose that they could understand the nature and indication of disease in animals as well as in men, and he was sure they were always delighted to have the opinion and the assistance of the veterinary profession in the discharge of their duties.

Councillor LOWSON, in proposing "The Royal College of Veterinary Surgeons," said that after what they had seen that day, he was sure veterinary surgeons were making very rapid strides in their profession. For himself, he could testify that in his calling as an owner of horses he was very much indebted to the veterinary profession.

Professor WILLIAMS, who replied, explained that the veterinary profession was represented by 32 members of council, and when anyone talked of the college, he usually referred to the council. He happened to be the only member present who belonged to the council, and he trusted that the appreciation which had been shown that day of their profession would extend all over the country. The council had had during the past year a great deal of quiet work to do. There were some 60 or 80 municipal Bills at present before Parliament. A great number of these had been drafted by town clerks, who had been probably unaware of the utility of the veterinary profession. He was also sorry to say that the medical officers of health in some of these towns considered that there was no one more capable than themselves of performing the duties of medical officers of health, chief veterinary inspector, sanitary inspector, and food inspector all rolled into one. It had been the duty of the council to see that the interests of the profession were protected, and enforce the rights of the profession to which it was justly entitled. The veterinary profession had no desire to do anything that did not appertain to it, but they did claim to be the only men fit to examine the lower animals in life and after death, whether in health or in disease, and they considered it was almost an impertinence for any other body of men to try and deprive them of that right. Very little had been said about these

matters in the veterinary papers. The council did most of its work in committee. Many hours were spent in committee in London, and perhaps all that was published was a short paragraph once a year that there had been eight meetings of the Parliamentary Committee, or twenty meetings of the Registration Committee. They would probably be surprised to hear that sometimes a single committee meeting would last from four to six hours. They had to pay their own expenses to London, and although they sat from eleven to six or seven in the evening, all that the council allowed itself out of the large sum of money the profession possessed was a cup of afternoon tea and a "cookie," so that to be on the council was very hard work indeed. Their sole payment, which amply rewarded them, was the fact that they were advancing the interests of their professional brethren.

Professor J. HUNTER proposed the toast of "The Scottish Metropolitan Veterinary Medical Society." They all knew that the existence of scientific societies was a comparatively modern thing. In all businesses which claimed to have a scientific basis, it had long been the case for the affairs to be conducted in secret. Even in the ancient guilds, every man was very much his own society, and when he discovered anything new or original he kept it to himself. It was only within recent times that men engaged in scientific professions had come to see that it was not in the interests of the profession that individual members should keep secret methods of their own. Men in any profession, now-a-days, who conducted secret methods were rightly and justly considered quacks. He looked upon it as one of the great benefits to be derived from such a society that men who were engaged during the year in carrying out the art of their professions could meet now and again in public and discuss the scientific aspects of the profession, and also their commercial interests. He had no doubt whatever that those meetings must be a lasting good to the profession to which they belonged. Those societies which did not meet and discuss their affairs were not likely to thrive. There were some in their own profession who all along kept out of such societies as that, and who went upon the old lines and who were a law unto themselves. Of course, the general body of the profession ignored such men. They could all "thole" a man who was a little cantankerous, but he thought society at large did not care to have much to do with a man who thought he was perfect in himself, and refused to mix with or take advice from his fellows. He thought it was a pleasant sign of the times that men at the top of the profession were not above giving advice or of taking advice from those whom they might consider their equals, but even from those whom they might consider their inferiors.

The SECRETARY responded to the toast of the society. He stated that it had been the custom of the society for several years past to hold the summer meeting outside of the metropolis of Scotland. They had been as far north as Aberdeen, as far west as Berwick-on-Tweed, and had visited several other suitable centres. This year they had made their pilgrimage to Forfar at the invitation of their lately elected president, Mr. Inglis, and, so far as the proceedings had gone, had received an ample reward. He referred more particularly to the admirable way in which Mr. Inglis had performed his operations, and he thought the society was fortunate in their selection of him as president. As regarded the society, he could only say it was in a satisfactory condition, and he thanked the proposer of the toast for the eloquent way he had spoken of it.

The company then proceeded to another room, where the business proceedings were commenced, Mr. Inglis again occupying the chair. Mr. Macphail, Inspector of Markets, Edinburgh, Mr. James Carpenter, New Veterinary College, and Mr. James Sandeman, Kirriemuir, were elected members of the society.

*Ptomaines and their Work.*

Professor HUNTER afterwards opened a discussion upon the papers read by the honorary secretary (Mr. Peter Moir) at two previous meetings of the society, and printed on pages of THE VETERINARY JOURNAL, the subject specially dealt with by the Professor being "Ptomaines and their Work." At the outset, he said, they would find that men who had worked at this subject for years, and who had really been the originators to some extent of this modern science of applied bacteriology, had had from time to time occasion to change their views. On looking back to their student days many present must acknowledge that very wonderful changes indeed had taken place, and although they did not like in a scientific manner to look upon anything as belonging to fashion, they could not after all ignore a certain strain of fashion, even in the most scientific of all professions. Those who had interested themselves in the historical part of their profession knew that it was an offshoot of the medical profession as practised on the human subject. The ancient theories of medicine, so far as they were theories, and although very peculiar and very *outré*, were after all not very far different from what they were swinging round to at the present day They had heard a great deal about the theory of humoral pathology, which attempted to account for the various diseases by certain peculiar humours, pretty much in the same way as men a little time ago used the term "fluid" as applied to electrical matters. Humoral pathology was set down very much in the same way. It was not the blood. It was not anything in particular, but certain peculiar complex juices, some of them supposed to be spirituous. At any rate, they were understood to be on the borderland between mind and matter. These circulated through the body, and when a little altered or deranged, they formed the cause of the various diseases. These humours were then supposed to be upset, and the disease commenced. This theory came to an end, and then came the pure chemical treatment of disease, which raged for many years. This consisted in pouring in one drug to neutralise some poison which this drug was supposed to kill right off. Even to-day he was afraid there were some men who had the idea that the pour ing in of some particular drug would neutralise some particular poison. This chemical theory of the treatment of disease had had its day, and they were on the borderland of an entirely new aspect of things. Probably in the long run those lists of drugs would have become a thing of the past, quite as much as many of the things in use in the days of their grandfathers. This modern development was almost entirely due to one or two accidental things which had been discovered in connection with these disease germs. It was an old story scientifically, to go back to the discovery of the life properties of what they were in the habit of calling bacteria. They did not pretend to differentiate between bacilli and bacteria. There was this to be said, however, that their organisms were living things, and they had got to live, like other living things, by taking in food. They had to eat, and they had to destroy something in order to make something. They were evidently of the nature of parasitic growths, and, although many of them were perfectly harmless, a great many were quite the reverse. The latter were the most destructive agencies with which they were acquainted in the universe. Formerly, arsenic and certain vegetable poisons, such as strychnine, were considered to be the most powerful poisons. The most dreadful cases of hopeless destruction of life, either slow or sudden, were cases where they had an injection of ptomaines, these being some peculiar poison, usually of the nature of an alkaloid. Chemists had long been in the habit of using that word alkaloid, which was a thing like soda or potash. It had long been a known fact that the majority of them, if not absolutely poisonous, were very

active indeed, and were not to be trifled with, and many of them were virulent poisons. It had been discovered that these alkaloids were not confined to purely chemical products made out of the tissues of plants, but they were to be found in the bodies of animals, and particularly so in an animal matter which was decomposing. In fact, animal alkaloid gave them an idea of what just a few years ago was understood to be a pretty good name for these poisonous products, produced by the agency of bacteria. These were not confined to animals, but were also found in plants. The poisonous properties of many plants were due to some sort of chemical process that produced these dreadful, poisonous ptomaines in decomposing matter. They all knew that although drugs were extremely dangerous things to meddle with—a man or an animal could become used to them, as was known to be the case with opium, so that after a time anyone could take a large dose of it without doing any harm. The same thing held good with regard to animal alkaloids: they all got accustomed to them. He believed it had been more by chance than anything else that the modern treatment of disease by what was called serum therapeutics was discovered; it had certainly not been found by research. It had been dropped upon largely by accident, and, like other scientific discoveries, the use of an attenuated poison taken from the body of an animal subjected to the action of a strong poison of the same nature was not a new matter. Some of the earliest work in connection with snake poisons was done under Professor Fraser in Edinburgh. These investigations showed that an animal could gradually become accustomed to a larger dose of poison, so that in course of time it was rendered immune. There was no doubt that a small dose from time to time of even the most virulent of these toxins gave immunity. The modern treatment of disease was on entirely different lines from the old chemical treatment. They did not now give drugs in the hope of killing the bacteria, which were on the spot, and preventing them pouring out from time to time more of those in the body, nor did they give drugs to precipitate the poison. They gave these drugs to resist the action of that poison which might be there in abundance, but which would now do no more harm than if it happened to be the product of some organism of the same kind. There were some birds that were quite heedless as to whether they were bitten by certain very poisonous snakes or not. As a rule, the lower forms of life were rather less easily affected by these powerful poisons than the higher forms, and although the horse was not one of the highest forms of life, it was like men in being easily affected by these poisonous alkaloids. It had often been wondered whether the snake charmers took out the teeth of the snakes, or ran all the risks of being bitten. There was no doubt that the majority of them used snake poison by swallowing it. It was believed they were in the habit of eating the viscera and the liver of the snake, so that although they ignored homœopathy as a foundation of science, there was no doubt that in this instance the modern treatment of disease by serum was on homœopathic lines: it was like curing like, or at any rate the keeping of the organs fortified against the destructive influence of that poison. He was no believer in the idea that putrefaction could not take place without bacteria. Often very simple albumens were converted into very poisonous products, and it did not appear that a very great quantity was required. In the case of anthrax, for instance, it did not take more than a needle to infect. These changes were carried on, not in a chemical way, but by life action. The action of one living organism on the matter around it produced these chemical changes. He had no doubt they were all well acquainted with the smell of rotten fish. The peculiar odour of that was due to a body produced by putrefaction of albumins, and due to the action of these organisms. It was fortunately not a poisonous one, otherwise putrid fish would be very poisonous.

That was one of the difficulties that had to be encountered at first in the inspection of meat. A man could be instructed to recognise tuberculosis after a certain amount of practice, and instructed to recognise many diseases, but it was not given to many men to recognise by the eye whether meat which had just begun to be putrid might not contain a sufficient amount of toxins to be dangerous. Very often they heard of tourist and wedding parties being poisoned all round by pies which were poisonous in a high degree through the presence of these ptomaines produced by the decomposition of albumins. In regard to this modern treatment of disease by serum, the horse, by general acceptance, was the animal which was trusted to as the source of serum. The horse serum was particularly suitable for cultivating these diminished toxins. They gave it a certain poison, and immediately in the tissues there were developed counter-agents, just as if the animal were striving to throw out its enemy. How that was done they could not say, any more than why white blood clustered round the place where inflammation was going on. There were some who went so far as to say that the anti-toxin was totally different from the toxin. It was a more sensible view to look upon the anti-toxin as a weakened form of the toxin found in the body of the victim. This weakened toxin was very much like a man who had indulged in an excessive use of alcohol. His ultimate recovery would be effected more easily by gradually depriving him of alcohol than by cutting it off all at once. There was no doubt that the moderate use of many poisons tended to facilitate the recovery from some poison of the same class, although this savoured a little of homœopathic theory. Those scientific men who practised it did not try to explain, even to themselves, how this immunity was got. He thought it was a sensible thing to be content with the good got by certain results, and leave the future to find out how the immunity was produced. If in the time of Jenner they had waited to find an explanation of how vaccination prevented smallpox, he was sure thousands of lives would have been lost. If they looked round the science of medicine, they would find that a great deal of it was empirical. It was largely experimental, and they were not going to cavil or have hair-splittings over theories. Whatever might turn out to be the real cause of immunity from disease, there was no doubt that immunity was produced by injecting certain doses of anti-toxin. He was afraid that in the case of these new drugs they must leave that matter to the specialists. There was another aspect of the subject, physiological rather than bacteriological, that he wished to refer to. They had been in the habit of looking upon glands as pouring out certain fluids by ducts, and they had been in the habit of ignoring a certain other set of glands as being ductless glands, and if they could find nothing else for them to do, they set them down as blood glands. They had now come to find that there were certain internal secretions. There were glands which formed fluids that did not appear in ducts inside the body or outside either. They had most profound influences, far beyond anything that was connected with the secretions of the liver or the kidney or the salivary gland, and the most minute changes in the composition of these internal secretions produced most grave results. A puncture of one of these glands caused immediately an intense difference in the animal. They simply went off their feet without any visible cause, and they died. Nowadays they found a great many of these were due to changes in these ductless glands, and they could stop a cause like that right in the middle, and they could put things right by injecting the gland got from the lower animals.

Professor W. Owen Williams said that quite recently research had demonstrated that unless certain organisms were in the soil, then plants were sure to starve. He thought they might go further, and request the chemists to discover, if possible, the various foods of the various organisms.

He had an idea that disease did not attack a perfectly healthy animal, for the reason that the pabulum in that perfectly healthy animal was not suitable for the growth of any disease organism. He had an idea that if, from want of food, from over-exercise, from anything which tended to depress the vital centres, that pabulum was deteriorated in any way, then an organism, if present, would attack it successfully, and induce the formation of a ptomaine, which would give rise to a disease. He also thought that perhaps this chemical change in the pabulum could only be an alteration into one deteriorated substance. Taking the pabulum as A, it might be altered into B, or it might be altered into C, or into D, but he did not believe that A was altered into a mixture of A, B, and C. His reason was that they seldom heard of a man or an animal being attacked by more than one contagious disease at a time. If the smallpox organism grasped a man, then he did not get diphtheria or scarlet fever or measles at the same time. The pabulum was quite satisfied to have the organism of one disease in it. He might be wrong in advancing this little theory, but it should be worth while for chemists to apply themselves to it, and see if there was not an alteration in the pabulum on which an organism must live when it got into the animal's body.

Professor McLauchlan Young, Aberdeen, said with regard to the changing of the pabulum of the body into a suitable medium for the development of the disease, it had occurred to him that this to a certain extent explained, to his own satisfaction at least, the hereditary nature of disease. A disease at one time that was hereditary was said to be a disease handed down from parent to offspring, and communicated while it was neutral. If what Professor Williams said was correct, namely, the rendering of the body suitable for the development of disease, that would explain why it was that they had the offspring born perfectly healthy and taking the disease later on. That was what they were accustomed to call nowadays a predisposing cause. Perhaps it would be better and more scientific to look at it in the light of Dr. Hunter, namely, the predisposing cause was simply the rendering of what was at one time a perfectly healthy tissue into a suitable medium for the development of bacterial growth.

Mr. Cameron, Berwick-on-Tweed, endorsed Professor Hunter's theory, that "like cures like."

Mr. Spruell, Dundee, also expressed the same opinion, and held that the virus of rinderpest produced rinderpest only ; the virus of smallpox produced smallpox only ; the virus of cholera produced cholera only ; and the virus of glanders produced glanders only. They could not tell how that was so, but the fact remained. They must be content with that until they could explain it.

Mr. Moir, in replying, said he was very grateful to Dr. Hunter for having so ably enlarged on the references he made in his paper to toxins and antitoxins. There was no doubt that the subject was surrounded with great mystery, and was provocative of many theories. There were, however, many mysteries that had been dispelled. Take, for instance, tetanus and its bacillus. Before it was discovered, why docking a horse should so frequently cause tetanus was not understood, and the cure that followed the re-amputation of the extremity of the tail in many cases was attributed merely to the first wound having taken on an unhealthy action. We now know that the bacilli do not travel and multiply through the body, but only act locally in the production of toxins, hence the success of a second docking. It was unnecessary for him to cite any other examples of the knowledge they had gained, and he again thanked Dr. Hunter and the other speakers to his paper.

On the motion of Professor Williams, a hearty vote of thanks was proposed to Mr. Moir for his extremely interesting paper, and to Dr. Hunter

for his remarks, and on the motion of Mr. SANDEMAN, Kirriemuir, a similar compliment was paid to the Chairman.

PETER MOIR, *Hon. Sec.*

## THE VETERINARY MEDICAL ASSOCIATION OF IRELAND.

A general meeting was held at Leinster House, Kildare Street, Dublin, at 7.30 p.m., on Wednesday, 21st June, 1899.

The following gentlemen attended, viz: M. Hedley, J. Freeman, C. Steel, Charles Allen, J. Mckenny, J. V. Daly, P. L. Simcox, W. C. Joseph, F. Kerr, F. C. Mason, A. J. Beckett, F. C. Gavin, J. D. Richardson, W. W. Malone, J. H. Norris, C. J. Carrick, A. B. Langran, J. Bole, G. B. Miller, W. Chambers, F. Lindsay, J. Purdy, D. Spiers Houston, W. A. Byrne.

The president, Mr. Hedley, occupied the chair.

The minutes of the previous meeting having been read and confirmed, the election of twenty-four candidates proposed for membership at the last meeting was then proceeded with, all of whom were unanimously elected. The names of six other gentlemen were also formally submitted for election at the next assembly of the association.

Other routine business having been transacted, the PRESIDENT then rose to deliver his inaugural address:—

### PRESIDENTIAL ADDRESS.

BY MR. HEDLEY, F.R.C.V.S.

Gentlemen,—In commencing my life among you as the president of this association, it is my first wish to express sincere thanks for the honour you have conferred upon, and the confidence you have reposed in me; in return, to add that I trust to act in this important capacity as to merit your full approval, so that when the time arrives to hand over the credentials of office to another, it will not be possible to say that your expectations have been miscalculated or your confidences misplaced.

For a considerable period the association has been hibernating, and it is now thought the time has come when it should be aroused, and take that share of duty which may be allotted to it. To conquer all before it? No. To work side by side with any other similar society or association for the common good both of man and animal.

The position of the veterinarian is one which indirectly is for the good of man, because the services rendered are for the good of the lower creatures, which are utilised in a multiplicity of ways for the benefit of mankind. In support of this statement it is not necessary to enter into minute particulars, or to say more than that these creatures are called upon in peace and war as beasts of burden, as food, as companions, as important elements in sport. Unless they are in a suitable condition of efficiency their utility is impaired.

Veterinary associations are primarily intended for the discussion of subjects which will indicate the best methods of obtaining the animal efficiency referred to; secondly, for the consideration of matters which affect the well-being of those who have selected the profession as their life work, and which is intended to bring about this efficiency; thirdly, to endeavour to establish among such gentlemen a brotherhood so strong in the bond of union as to make all the associations work in unison for the common good of all concerned. With such objects as these there should not be any scarcity of matters to animate its discussions, and there should not be difficulty in

maintaining associations in this country. It is hoped that any difficulties which may have been experienced hitherto will not again interfere with the usefulness of these gatherings.

Whether we examine the statistics compiled relating to the animal exports of this country, or contemplate both the quantity and quality of stock shown at the several exhibitions of the Royal Dublin Society at Ballsbridge, of the North-East Agricultural Society at Cork, and of other agricultural societies —when the list of fairs and markets held all over the country for the exclusive sale of horses, cattle, sheep, or swine is borne in mind, we arrive at the conclusion that Ireland is a fruitful country, and one which must give large employment to our profession. It is true that there are over 300 members of the Royal College of Veterinary Surgeons in Ireland, but that they are as fully occupied in the pursuit of their calling as they should be is far from being equally true. Why is this?

If a human being was ill, aid would be requisitioned earlier than is the case with our patients. It is inferred that the monetary question here presents itself. The value of the animal is placed on one side of the consideration, and the necessary expenditure in obtaining veterinary aid on the other side ; and, lastly, the probable value after recovery. These considerations do not come before the sister profession so prominently as before us. It, however, frequently happens that, while weighing the considerations, the patient settles the question definitely by passing away, when early aid might have prolonged a useful animal's life.

The veterinarian is called upon to cure when disease has appeared in our flocks and herds, and, where cure is not possible, to prevent its ravages and extensions. Besides these functions, his advice is looked for with reference to the care of the breeding animal during the critical period of its existence, to suggest the most approved methods of caring for the young from birth to maturity. The services of the veterinarian, however, are not always called in at the proper time ; they are too often sought when life is quickly ebbing away, and help is impossible : very often after various homely and empirical remedies have first been resorted to—remedies, so termed, which kill instead of cure.

The loss of young animal life alone in Ireland amounts to an enormous sum of money. It has been calculated that calf life in some districts is lost by thousands of units per season—losses which might have been prevented if proper advice had been obtained. I know by experience that swine life, from preventible causes—from want of care, from want of proper medicinal attention—is lost in large numbers, chiefly because the professional help which is available is not availed of. This is not as it should be, and I think the profession may also be somewhat to blame for not looking after these matters. It is a subject which demands the attention of our veterinary associations.

Another question of vast importance which should demand our early attention is that which relates to the inspection of meat for food. That the veterinarian, from his anatomical, physiological, and pathological knowledge of the animals chiefly used for food, is best suited for such duty is undoubtedly beyond gainsay. This function has in years past been placed in the hands of persons eminently unfitted for such an important position. The public mind is now discerning the fact that human life is jeopardised because our animal food supply is not properly supervised. In some large places the duty has been left to the Medical Officer of Health and his assistants, which means that if the assistants did not see any wrong, the Medical Officer of Health was not called upon. This arrangement has left room for abuses of various kinds. Carcases have been passed into the dead meat market which should have been destroyed, through no fault of the Medical Officer of

Health, but of the system, and also because of the many other duties that officer is called upon to perform. This fact has stimulated Parliamentarians to ask queries. I could weary you with them, but think time can be better occupied. So recently as May 13th the following appears in the Parliamentary news relating to the sitting of the evening before :—

*Meat Inspectors.*

Mr. PAT O'BRIEN asked the President of the Local Government Board whether he is aware that there exists nobody specially empowered to conduct examinations and issue certificates to candidates applying for appointments as meat inspectors, and whether he will arrange to establish such authorised body on the lines indicated to the Local Government Board Order of 11th March, 1899.

Mr. CHAPLIN : I have no statutory authority to carry out such an arrangement as that referred to, and before proposing any legislation on the subject, it seems to me desirable to await the result of the communications we have addressed to the local authorities. But the Sanitary Institute and other bodies have, I believe, for some years past afforded opportunities for training and examination in meat inspection in connection with the certificates to sanitary inspectors, and I have no doubt that the recently constituted Sanitary Inspectors' Examination Board will maintain similar examinations. Moreover, I understand that the Sanitary Institute are maturing a scheme for holding special examinations in meat inspection.

From this it may be seen that, notwithstanding the fact that there is material already available in the trained veterinarian, other bodies are endeavouring to creep in upon what should be allocated to our science. There, however, is evidence that some of the leading corporations of cities are not satisfied by any perfunctorily performed duties as to animal food, and they have veterinarians engaged to attend to see to the abattoirs, to see to the health of cattle giving milk, as well as to attend to other matters bearing thereon. I am aware that in some recent Public Health Acts special clauses have been inserted rendering the services of the veterinary officer necessary before carcases or live cattle are condemned. Although I am not aware of any advances such as I have now indicated having extended to Ireland, yet I think the time is not far off when the wise action already taken in Great Britain will be not only copied but improved upon in Ireland.

A profession of vast importance like ours must have a governing body to rule, guard, and, if requisite, chastise its members. This body exists, elected by the vote of the brethren in all parts of the empire. Probably, with reference to this body, one of the most astonishing features connected therewith has just transpired. I refer to the bye-law relating to advertising, to the antagonistic discussion which has resulted, to the manner in which the functions of the committee have been performed. There has been much "cry, but no wool," because the cry has been from the objectors, but when they could have unseated what they regarded as an obnoxious committee at the recent elections, there was not any attempt made, hence "no wool."

Personally I think the committee have acted reasonably. They appear to me to be gentlemen, who take a responsible view of their duties and powers in the majority of cases. There may be one or two instances where things should have been different, but neither is a whole crop of fruit judged by one sample, nor should the full actions of this committee be condemned on account of one or two errors. If the profession is not satisfied, the duty devolves upon that profession to say so, and that in a proper manner. I think the associations should be used for such purpose. At the same time that there is criticism it should not be of the destructive character only,

but should bear an equal share of the constructive character, indicating the basis on which the names of members of the college should be removed from or reinstated on the official register.

This register might be improved and corrected, more particularly so far as it relates to Ireland. It contains many obvious errors. The list of members in Ireland might be tabulated in counties as in the case of England, Scotland, and Wales. Interest in the register might be taken by the many veterinary associations in the United Kingdom, and errors rectified. It would not be difficult to suggest a workable scheme for this purpose. I have already made some practicable offers with regard to Ireland, but am not yet made aware whether my unremunerated assistance is acceptable.

At the same time, that the R.C.V.S. may be congratulated upon the way the lady veterinary question was concluded, I think the preliminary education of the student might be made more valuable to himself if the advantage of a better knowledge of modern European languages was impressed upon him. To be a linguist in these days of easy travel and comparatively cheap professional literature is an advantage, the value of which cannot be too highly estimated.

The R.C.V.S. might also, with advantage to the members and the associations, as assistants to strengthen the college, take further measures to have all veterinarians exempted from serving on juries. As a body of professional men we can show that our case is one of as great urgency as many already exempted. Let us hope this matter will not be permitted to rest.

Passing from the R.C.V.S., I may refer to an agitation which is now occupying attention with reference to military titles and their bearing on the veterinary officer.

Objection has been made to the Veterinary Department being ear-marked, while schoolmasters, paymasters, and other officers are not similarly treated by having their profession or occupation prefixed to their title. In conversation and communication with some of the military members of our profession, I find that the wish to have the word "veterinary" omitted is not without exception. However, there is an old adage which says, "No one knows so well where the shoe pinches as the wearer," and if the majority of our military professional brethren feel that they are specially marked out for disfavour, or lose some status, or in any way are placed at a disadvantage, then, by all means, if our support is sought, let it be given to the full.

It is a delicate matter to interfere before being asked, but I have no reason to believe that any moral assistance, which might be given by the profession at large, will not be acceptable if other sources of aid do not obtain the relief sought.

In concluding this somewhat disconnected address, I feel it is incumbent upon me to urge you to bear in mind that every member of this association has a responsibility which does not end in either paying a subscription or attending the meetings. I must ask you to prepare observations on subjects to be considered. It is not necessary that they should be elaborate. You may have a useful idea, and so may others. Unless those are expressed, the advantages of these ideas are lost. You have had professional experiences, sometimes pitfalls, which we desire to avoid. There will be times when they can be brought under notice with advantage to your hearers. Some of you may wish for information which is quite within the power of another member to render, but unless it is asked for the craving cannot be satisfied. Remember, the association will exist, vegetate, and perhaps hibernate again, unless use is made of the resources that are offered. Let us, therefore, mark to-day as a start on a new and, I hope, a very successful career. I know the officers of the association are anxious for its prosperity, and trust you will all take a share in building up an association worthy of the country in which we live.

I believe that in Ireland there is good professional material both for private and other practice.

We have amongst us men who are observant and men whose observations if chronicled would indicate they have been rightly formed. Let us as associates derive advantage from these chronicles.

I hope that, as the century closes, we shall not only fully appreciate the progress which our calling has made, but we may all live to overcome many difficulties which may arise in the century to which birth will ere long be given, and render services for the good of our fellow man, by doing much to establish the efficiency of our animals, for whatever purpose they may be requisitioned to perform, whether in peace or war, whether as beasts of burden or for sport, as creatures for our food supply or as our faithful companions.

I thank you for your attention, and express regret if I have been tedious.

## "Questions as to Lameness in Horses."

BY MR. CHAS. STEEL, F.R.C.V.S.

The "questions" considered were mainly as follows:—

Does a horse exhibit lameness in one foot as he goes from, and in the other as he approaches, the observer?

The essayist failed to appreciate this, and suggested that when such an assertion was made the observer had been mistaken either in one instance or the other.

Is peculiarity of action sometimes confounded with lameness?

This led to the question of so called "bridle lameness" which the author thought ought not to deceive the professional expert, he would call it the amateur delusion.

When horses are habitually exercised in a ring do they become lame in the fore limb nearest the centre of the ring?

In this the writer thought they might only appear to be lame, but he questioned whether undue prolonged exercise in a small ring might not produce true lameness.

Can an animal be both stiff and lame?

The speaker remarked that it was suggested that if the horse was stiff he was temporarily lame, and that stiff lameness, the result of unusual muscular exertion, passing off and recurring, might sometimes account for professional opinions being diametrically opposed, if a short time elapses between one examination and another, and yet each opinion be essentially correct.

Are some forms of lameness apparent in the stable only?

In this connection the essayist alluded to the pointing of the foot, and was of opinion that a horse never really points without cause. The peculiar position of both fore feet being extended was noticed; also continual shifting of the feet *versus* that firm position which suggested at once the probability of the horse pulling out very sound. Knuckling of the joints might be suspicious, or even classed as infirmity, but yet the animal might go remarkably well.

The inspired veterinary surgeon who can look over a box door and at once detect the malady from which a horse suffers was not believed in.

The speaker then dealt with the inquiry as to what extent does turning a horse round assist in diagnosing lameness. He next addressed himself to the consideration as to "turning over in a stall," and Professor Pritchard's hint as to its being a test for hock lameness was advocated.

The "three-cornered walk," in which a horse "may be supposed to be

lame," going forwards; "broadside on, similar to an animal going down hill with a heavy load behind him," as mentioned by Professor Williams, was also inquired into. He then referred to the professor's description of "pointing backwards" when the limb is relaxed, the knee bent, and the foot posterior to its fellow, as found in severe shoulder lameness, and his remarks on this subject led up to a solicitation as to the opinion of the members present on the distinction between pointing forwards and pointing backwards being a possible useful auxiliary, or even leading diagnostic symptoms.

Shoulder lameness next engaged the consideration of the speaker, and he put the question as to whether this form of lameness was, as a rule, very difficult to detect. He sketched the anatomy of the shoulder joint and the attachment of the shoulder to the trunk, suggesting that when these parts were the seat of injury, action was very reliable as evidence; in joint affections distinct dragging of the limb was apparent, in those of muscular attachment rotation was prominent.

A few questions as to the value of neurectomy, median, plantar ("high" and "low" operations) in the foreleg, and tibial in the hind leg then followed.

Was it advisable to destroy Holocauste when his pastern bone was fractured in the recent race for the Derby?

Mr. Steel, as he proceeded, dealt in an able and most interesting manner with the various points which formed the subject of his paper; in this brief *resumé* of the questions he submitted for consideration he certainly provided ample matter for the discussion which followed, but which was necessarily brief owing to the limited time at the disposal of the meeting.

*Discussion.*

Mr. SIMCOX in the course of his remarks thought Holocauste might have been saved.

Mr. DAVY expressed a similar opinion, and in referring to hip lameness observed that the animal in progression went sideways, and did not bring up the leg on the injured side.

Mr. W. CHAMBERS remarked that as a test in supposed cases of shoulder lameness, he had found diagnosis made easier by having the horse led over a high projection at the stable door, when the animal would always drag the lame limb over in case of shoulder complication.

Mr. MASON made several interesting remarks in connection with hip lameness, referring particularly to side motion, and concluded by expressing his concurrence with Mr. Chambers' observations.

Mr. JOHN FREEMAN: To Colonel Steel this society should feel deeply thankful for his excellent paper. As regards bridle lameness or so-called lameness, it is quite common in particularly young horses, and may be due to a variety of causes. Horses hard on one side of mouth, boring away from the nagsman when jogging, injury to the mouth from hard pulling or in mouthing, and a lazy, indifferent method of moving—in such lameness it is necessary, if the horse has a double bridle on, to change it to a snaffle, and, if he does not jog sound, it may be necessary to jog him with a halter, and again have a man to run each side, so as to keep his head straight; this was the plan adopted by the late Professor Ferguson. Ring exercise will produce lameness if the horse is kept constantly going the one way. Pointing is most suspicious of some incipient and very often chronic ailment, and a horse that points invariably sooner or later goes lame or groggy. Yet many horses will point from cracked heels and other minor causes, and in some horses it becomes a habit. Moving a horse from one side of the stall to the other is a very useful guide to many defects, and particularly so in a sale-yard, where you are not at liberty to pull a horse out. Division of the posterior tibial nerve for the removal of hock lameness I understand

is not a success. As regards Holocauste, if the owner did not insist on his destruction, I fail to see why he was not treated, and, if the lower part of the limb could not be saved, surely the leg could have been amputated and the horse kept as a sire.

Mr. BYRNE (Roscommon) said that he had a privilege possessed, he thought, by no member of the association, or perhaps of the profession, in having once been a pupil of the essayist. As a student at the Albert Model Farm, Glasnevin, he had the advantage of attending the excellent course of lectures delivered there by Colonel Steel, and he was very happy to be afforded the opportunity of taking part in the discussion on his able and important paper, and to see him so fresh and vigorous after twenty golden years. Country practitioners had not the same opportunities of dealing with obscure cases of lameness as their brothers in large cities, but they might claim to be more conversant with such cases in young stock. The term "bridle lameness" might sometimes be used in a loose way, and cover a number of dissimilar ailments, but he frequently met with cases of lameness due to improper bitting. Recently he had been consulted about a case of intermittent lameness in a valuable four-year-old colt, which was being broken. The dam had bad feet, and was thought to have navicular disease, and the owner of the colt suspected a hereditary tendency in the same direction. The colt had beautifully sound feet, there was no indication of a splint, nothing could be found wrong with the limb, but there was well-marked lameness of a foreleg. An examination of the mouth disclosed an abrasion of the mucous membrane high up, and when the colt was trotted in a cavesson he went quite sound. Mr. Daly had alluded to a peculiar warping of the quarters towards the affected side in certain cases of hip-lameness. He had never observed this symptom in such cases, but quite recently he had just such a symptom very markedly shown by a bad "shiverer," which trotted quite sound behind. Splint lameness was certainly as troublesome as any, it had such a knack of turning up unexpectedly when one thought it was quite cured, and, perhaps, because owners were so apt to think the man must be a fool who could not remedy such a simple thing. But the subject of lameness on the whole was one bristling with difficulties, and was such a constant source of trouble and uneasiness to the profession that he was very thankful to Colonel Steel for having introduced the subject. He referred to the use of cocaine and similar local anæsthetics as used in diagnosing and disguising lameness. As an aid in diagnosis, their use was perhaps quite legitimate, but even in that way, and most certainly in temporarily disguising lameness, he regarded their extensive employment with extreme regret and apprehension. Those of them who examined numbers of horses as to soundness, especially at fairs and sales, had already more than enough to contend with. But if they could no longer rely on the honesty of the story told by the horses themselves; if the horses were still further faked and drugged, and rendered temporarily sound, life would be unendurable, the world no longer worth living in.

Mr. MCKENNY said that he had the great privilege and advantage of being assistant to the late Professor Ferguson, and that for some years the Professor and he, in all cases of lameness submitted to them, made it a rule, previous to manipulation, to compare their diagnosis of the seat of injury and nature of the affection as apparently disclosed in the peculiarity of action of the patient under examination. In many cases he held that the peculiar action exhibited might be said to be infallible as a diagnostic guide. For instance, in progression in hip lameness the foot of the sound limb was invariably placed on a line between the two fore ones; in "bridle lameness" the head was always kept on one side; in elbow lameness and fracture of the second rib the peculiar attitude and inability to place weight on the limb was very similar, however in the former local pain was present, and crepitus

could be detected in the latter, but it could not be satisfactorily localised. The peculiar stiff catching up movement of the hind legs when a horse was turned from one side of the stall to the other was noticeable in cases of scirrhus cord as well as when spavin existed. Holocauste should certainly not have been destroyed, and in support of his contention he instanced several interesting cases which occurred in his experience.

Mr. ALLEN, in thanking the essayist for his valuable paper, said he agreed with the remarks in Professor Williams' book relative to a horse going lame on one leg going from and on the other leg coming to you. He was also of opinion that Holocauste might have been saved.

Mr. BECKETT expressed his personal indebtedness to Colonel Steel for his interesting paper, and remarked that his views of median neurectomy were evidently not those of Professor Hobday, who had given notes of a number of successful cases in the veterinary journals. He spoke of personal experience in a case he had in mind, where the subject was a harness mare suffering from stiffness of the knee joint due to chronic inflammation, and of the material, and, as far as he (the speaker) could judge, permanent benefit produced. The mare was under close observation for six months, and was working daily in harness, the lameness being almost entirely cured, and the animal rendered useful.

The PRESIDENT asked what would have been the value of Holocauste as a sire, and in reply to this enquiry, Mr. Daly expressed the opinion that £6,000 would be about the sum; the president then remarked that in view of this the horse certainly could have been saved for that purpose, even supposing amputation were necessary, and a wooden limb or member substituted; after a few further observations, he called upon Colonel Steel to reply to the remarks made on the subject. It may be mentioned that in the case of Holocauste opinions in all instances had, of course, regard to the preservation of the horse for stud purposes.

Colonel STEEL, in replying, expressed his pleasure with the manner in which his paper had been received, and was glad to observe that his views had, he might say, met with their unanimous approval and concurrence.

On the motion of Mr. BYRNE, seconded by Mr. ALLEN, a cordial vote of thanks was passed to Colonel Steel, to which the latter suitably responded.

Mr. GAVIN proposed a vote of thanks to the president, which was duly seconded by Colonel Steel, and gracefully acknowledged by Mr. Hedley.

The PRESIDENT (Mr. Hedley) then proposed that the best thanks of the meeting be tendered to the Royal Dublin Society for its kindness in placing the room at their disposal; this resolution was seconded by Mr. MCKENNY, and passed unanimously.

It was arranged that the next meeting of the association take place on the Tuesday of horse show week. This terminated the proceedings.

## MIDLAND COUNTIES' VETERINARY MEDICAL ASSOCIATION.

THE quarterly meeting was held on June 2nd, but differed very much in character from previous gatherings, in that the principal item on the programme was an outdoor excursion, to which ladies were specially invited. The fair sex turned up in goodly numbers, and excellent and complete arrangements, not to mention the experience of ideal weather, conspired to make the occasion in every respect memorable and enjoyable. Trentham (Staffs.), the charming residence of the Duke of Sutherland, was the place visited, and by his Grace's special permission, the gardens and grounds, as well as the house, were thrown open to the association and their guests. The members present were: The President, Mr. H. T. Dawes, and Mrs. Dawes,

of West Bromwich ; the hon. treasurer, Mr. John Blakeway, and Mrs. Blakeway, of Birmingham ; Mr. A. W. Mason, of Leeds (president of the Royal College of Veterinary Surgeons); Mr. R. C. Trigger and Mrs. Trigger, of Newcastle-under-Lyme ; Mr. J. Coe, Mrs. Coe, and Miss Coe, of Stoke-on-Trent ; Mr. A. Hodgkins and Mrs. Hodgkins, of Hanley ; Mr. G. Smith, of Tunstall ; Mr. F. L. Gooch, of Stamford ; Mr. W. S. Carless and Mrs. Carless, of Worcester ; Mr. W. Carless and Miss Carless, of Stafford ; Mr. A. E. Paley and Miss Meek, of Walsall ; Mr. E. G. Crowhurst and Miss Crowhurst, of Leamington ; Mr. F. H. Gibbing and Miss L. Mills, of Nottingham ; Mr. H. Barrett and Mrs. Barrett, of Nuneaton ; Mr. R. Wilson, Mrs. Wilson, and Mrs. Buszard, of Birmingham ; Mr. E. Price and Mrs. Price, of Birmingham ; and Mr. Harvey Collett, of West Bromwich. The visitors present were : Mr. A. C. Cope, of the Veterinary Department of the Board of Agriculture ; Mr. Edwin Faulkner, Miss A. B. Faulkner, and Miss Hurndall, of Manchester ; Mr. Augustus Taylor and Mrs. Taylor, of Manchester ; Mr. Herbert Bibbey and Miss Bibbey, of Harecastle, Kidsgrove ; Rev. T. J. Pearce, of Port Erin, Isle of Man ; Mr. R. O. Stafford, of Crewe ; Mr. R. Stevenson, of Longton ; Mr. T. A. Trotter and Miss Greensill, of Newcastle-under-Lyme : Mr. J. M. Lund, of Buxton ; and Mr. and Mrs. Laithwood, of Congleton.

*Apologies.*

Letters and telegrams expressing regret at non-attendance were received from the following members :—Professors M'Fadyean and Williams, Messrs. D. McGill, Birmingham ; W. Grasby, Daventry ; J. S. Barber, Rugby ; J. L. Barling, Hereford ; J. J. Burchnall, Loughboro' ; H. Blunt, Lutterworth ; F. W. Barling, Ross ; E. Beddard, Wolverhampton ; P. Woolston, Bedford ; F. J. Taylor, Birmingham ; and J. Martin, Wellington, and others.

*Luncheon.*

Through the kind hospitality of the four local practitioners, Messrs. Trigger, Coe, Hodgkins and Smith, the whole party were entertained at the Trentham Hotel to luncheon, and here let it be mentioned that the four gentlemen referred to made themselves responsible for all the local arrangements, and very assiduously superintended the carrying out of the same. At the conclusion of the repast,

The PRESIDENT proposed, in very cordial terms, the health of the hosts, and in the name of all present thanked them sincerely for their efforts to promote the success of the gathering.

The toast was accepted with much heartiness.

Mr. TRIGGER, in response, said he was pleased to have been able to assist in welcoming the association to that district. He did not claim any special honour in the matter, as with the three gentlemen also associated with the toast, there had been the most willing and agreeable co-operation.

Messrs. SMITH, COE, and HODGKINS also offered a few remarks in acknowledgment of the compliment.

*The Business Meeting.*

The party was then conveyed in brakes to the Trentham Institute, lent for the occasion by the Duke of Sutherland, where the business portion of the proceedings was conducted. Mr. Dawes, of course, presided, and in the absence, through indisposition, of the hon. sec. (Mr. John Malcolm), Mr. Blakeway performed the secretarial duties, reading the circular convening the meeting, and also the minutes of the last quarterly meeting, which latter were confirmed.

*Nominations and Election.*

Mr. PALEY nominated for election to the association Mr. G. H. Kitchen, of Walsall.

Mr. TRIGGER nominated Mr. R. Stevenson, of Longton.

Mr. COE nominated Mr. Herbert Bibbey, of Harecastle, Kidsgrove.

Mr. O. CARLESS (Stafford) nominated Mr. R. W. Carless, of Stafford.

The above nominations will, according to the rule, be submitted for election at the next meeting.

Upon the motion of the PRESIDENT, seconded by Mr. PALEY, Mr. J. H. Burnett, of Birmingham, was unanimously elected a member of the association.

*Compliment to Professor Dewar.*

Mr. BLAKEY, in accordance with notice previously given, moved that Professor Dewar, of Edinburgh, be elected an honorary associate of this association. As they were aware, Professor Dewar's predecessor, Professor Walley, was an hon. associate, and so were the heads of all the other veterinary colleges. It was not necessary for him to commend Professor Dewar to their notice, for they had had him at one of their meetings and they hoped to welcome him again.

Mr. TRIGGER said he had great pleasure in seconding the motion.

This was unanimonsly agreed to.

Mr. W. Hunting, of London, was to have delivered a short address upon "Tuberculin," but the acting secretary read a letter from that gentleman, who regretted that an important engagement in Sunderland precluded the possibility of his being present. The meeting, upon the proposition of Mr. TRIGGER, and seconded by Mr. CARLESS (Stafford), expressed regret at the unavoidable absence of Mr. Hunting, and adjourned the subject of the address until the next meeting.

*The Victoria Veterinary Benevolent Fund.*

Mr. BLAKEWAY read the following letter, received by him in his capacity of hon. treasurer of the association, from the secretary of the above fund :—

46, Lewisham High Road,
New Cross, S.E.,

*February 21st*, 1899.

My Dear Sir,—I am instructed, on behalf of the Victoria Veterinary Benevolent Fund, to thank the members of the Midland Counties Veterinary Medical Association for the handsome annual subscription which they have been pleased to vote. I enclose receipt for the cheque for five guineas you so kindly sent me. You will be pleased to know that two ladies, widows of veterinary surgeons, who are very poor indeed, are already in receipt of £1 a month each. I think you will agree with me when I say that real deserving cases ought to be relieved, and that we ought not to acquire a lot of money merely to invest. Thanking you all very much.—I am, yours faithfully,

(Signed) W. F. BARRETT.

*Votes of Thanks.*

The ordinary business of the meeting being ended, Mr. MASON proposed a vote of thanks to the Duke of Sutherland for his permission to use the Institute and visit his house and grounds.

This was seconded by Mr. GOOCH, and heartily carried.

A vote of thanks to the President for his services in the chair was also passed on the motion of Mr. TRIGGER, seconded by Mr. MASON.

*On Pleasure Bent.*

The party, on the guidance of Mr. P. Blair, the Duke's head gardener, who very kindly gave most valuable assistance, were then driven to Trentham House, through which they were conducted, after which various other objects of interest were visited, notably the kennels of the North Staffordshire Hunt (of which well-known pack the Duke of Sutherland is master), the park and woods, and the gardens. Here, in particular, Mr. P. Blair's special knowledge of the place enabled the company to combine profit with pleasure. At five o'clock, all re-assembled at the Trentham Hotel, where tea was partaken of, and in good time the members and their friends departed for their respective homes.

JOHN MALCOLM, F.R.C.V.S., *Hon. Sec.*

## CONTAGIOUS DISEASES (ANIMALS) ACT, 1864 AND 1899.

SUMMARY OF RETURNS OF OUTBREAKS for the four weeks ending July 8th, 1899.

ENGLAND AND WALES.

| Pleuro-Pneumonia. | Swine Fever. | Glanders (including Farcy). | Rabies. | Anthrax. | Sheep-Scab (for month of May). |
|---|---|---|---|---|---|
| None | Outbreaks 242<br>Slaughtered 2,575 | Outbreaks 73<br>Attacked 103 | None. | Outbreaks 29<br>Attacked 48 | Outbreaks 27 |

SCOTLAND.

| | | | | | |
|---|---|---|---|---|---|
| None | Outbreaks 9<br>Slaughtered 263 | None | None | Outbreaks 6<br>Attacked 16 | Outbreaks 7 |

IRELAND.

| | | | | | |
|---|---|---|---|---|---|
| None | Outbreaks 42<br>Slaughtered 651 | Outbreaks 1<br>Attacked 3 | Dogs 6<br>Other animals 1<br>Destroyed 2 | Outbreaks 1<br>Attacked 1 | Outbreaks 1 |

## INTERNATIONAL CONGRESS ON TUBERCULOSIS.

The report of Sir Herbert Maxwell, M.P., F.R.S., and Dr. Pye-Smith, F.R.S., the delegates of Her Majesty's Government at the International Congress on Tuberculosis, held at Berlin from May 24th to 27th last, has just been issued as a Parliamentary paper. The report states that the Congress, which was opened by the Herzog von Ratibor in the presence of the German Empress, consisted of 180 delegates, appointed by and representing different States and Universities and other public bodies. A number of papers were read, chiefly by German delegates, but nothing in the nature of a general discussion took place. The proceedings when printed will form a valuable corpus of scientific opinion on the subject.

Dr. Pye-Smith adds a memorandum on the medical aspect of the results of the congress. After giving in some detail the most important conclusions which were recognised—that consumption and other tubercular diseases are caused by the presence and multiplication of the specific bacillus discovered by Professor Koch; that tuberculosis, as a condition directly transmitted by inheritance, is extremely rare; and that phthisis, or pulmonary tuberculosis in particular, is not catching—Dr. Pye-Smith goes on to describe the following practical points in the prevention of tuberculosis as a widespread and destructive disease, which were inculcated by various speakers at the congress:

(*a*) The primary importance of free ventilation and wholesome and abundant food. Improvement in the dwellings and the food of the poorer classes in this country, and their increasing cleanliness and sobriety, have not only diminished sickness generally, but directly reduced the number of deaths from consumption until the mortality from this cause is less in London than in any other large city. (It is, however, important to notice that the death-rate of young children from disease of the bowels has little, if at all, diminished.—See Sir Richard Thorne's Harben Lectures.)

(*b*) The prevention of infection of the lungs by the bacillus of tubercle depends chiefly on rational treatment of the sputa of consumptive patients, or rather, for practical purposes, of the sputa of all those affected with cough and expectoration. The phlegm should never be deposited on the ground or on a handkerchief where it can dry up; it should be kept moist until it can be destroyed by heat, and the vessel used to receive it should contain phenol or some other antiseptic solution.

(*c*) The prevention of infection by tuberculous milk may be accomplished either by boiling all milk given as food to children or by inspection of dairies, so as to prevent tuberculous milch-cows being used.

(*d*) The prevention of infection by meat can be secured by careful and thorough inspection of carcases, or by diagnostic testing of cattle with tuberculin. This, the only undoubtedly useful application of the so-called tuberculin, has the drawback that after the effect of the inoculation has passed off a tuberculous animal becomes immune to it for a time, and so may be passed as healthy. (It is said that cattle suspected of tubercle are thus rendered immune to the tubercular test before being sent over the French frontier.)

Though the question of the treatment of phthisis was only a supplementary part of the work of the congress, Dr. Pye-Smith gives the following facts, which are, he says, "important for the people as well as their governors to be aware of":—

(*a*) That tuberculous disease of the bones and joints of the glands and skin and abdomen, though dangerous, is not incurable, and by the modern methods of operative medicine is in most cases successfully cured.

(*b*) That tuberculosis of the lungs (phthisis or consumption) is frequently cured, and probably more often now than formerly. (Curschmann, of Leipsig, fourth day of congress.)

(*c*) That there is no specific drug which has direct influence upon consumption, but that many, old and new, have valuable effects upon its complications. (On the Action of the New Tuberculin, see Briger's paper, on the second day of congress, and Dr. C. T. Williams in the R. Med. Ch. Trans. for the present year.)

(*d*) That abundant food, particularly of a fatty nature, and a life in the open air, are no less valuable in the treatment than in the prevention of phthisis, and that the hospitals and asylums for providing these essentials, which are now numerous in Germany, and far from rare in England, Austria and Hungary, France, and the United States, are of essential value. That the "open-air treatment" has been long known and practised in the United Kingdom was handsomely acknowledged by Professor Von Leyden (first day of congress). Compare papers by Kaurin (Norway), Westhoven (Ludwigshaven), J. R. Walters (London), Desider Kuthy (Budapest), Schmid (Switzerland), Domene (Spain), fourth day.

(*e*) That the influence of climate, altitude, temperature, and dryness of the air and soil, of travelling, and of sea voyages has been very differently estimated at different periods, and that, while each is in various degrees important, popular opinion probably exaggerates their power. (Hermann Weber, of London, fourth day of congress.)

(*f*) That the prospect of improved success in the treatment of tuberculosis in general, and of consumption in particular, by the advance of pathology and the progress of surgery and medicine, is a hopeful one, almost as hopeful as that of limiting the spread of the disease by preventive measures.—*The Times*, 13th July.

## THE PREVENTIVE INOCULATION AGAINST REDWATER.

In my last communication on the preventive inoculation of cattle agains Redwater (*vide* vol. xiv. No. 7, p. 445) I stated that, when large doses o salted blood were injected into healthy susceptible cattle, as was done in the first inoculation experiment made at the Klu Klu station, it was clearly indicated that the larger the dose of salted blood injected, the greater the immunity produced. Further, it was somewhat doubtful whether the salted blood communicated an active form of the disease to these inoculated oxen, or that it merely conferred a passive immunity, and that the mild attack of the disease which followed was contracted in the ordinary manner.

Our subsequent experience appears to support the latter opinion. On this subject there is a very interesting article by Dr. J. Sidney Hunt in the *Queensland Agricultural Journal*, vol. iv., part 3, p. 216. Referring to animals' immune to Redwater, he says: "I think there are perfectly good grounds for believing that an immune animal differs from a susceptible one essentially in the fact that it contains something in its blood which the susceptible one does not. This something protects the animal that has it. Let us for convenience call this something an anti-toxin.

A toxin is generated by the vital activity of a micro-organism in a suitable medium—*e.g.*, living bullock's blood. An anti-toxin is generated (as Nature's antidote to the toxin) in and by the blood and tissues of the living animal. In other words, a toxin is the poisonous product of a micro-organism; an anti-toxin is the protective product of a living animal to counteract it. The more toxin is introduced into an animal the more the anti-toxin is produced to counteract it. So that the blood of an animal into which large doses of toxin have been introduced becomes very rich in anti-toxin—so rich that when injected into a susceptible animal it protects it, too, in a passive way, from any toxin which may be injected into, or generated in, its blood.

The animal in which the anti-toxin is generated is said to be actively immune; the animal into which the serum of such an animal is injected is said to be passively immune. That is to say, it is immune only as long as the anti-toxin (which was manufactured in the body of the actively immune animal) remains in its system.

In some cases the serum of an immune animal is, as above described, anti-toxic only—that is to say, it only antagonises the toxins produced by micro-organisms. In other cases it is also anti-microbic—that is to to say, it destroys the micro-organisms themselves. In the case of Texas fever—Redwater—the serum of recovered animals can be only anti-toxic because, as we know, it does not destroy the micro-organisms in the blood of such animals. If I am correct in assuming that the cause of immunity to Texas fever is the presence of an anti-toxin in the blood of recovered animals, then the larger the dose of "recovered" blood injected, the less should be the reaction produced; because the quantity of anti-toxin contained in a large dose of such blood would have some effect in counteracting the toxins produced by the micro-parasites introduced at the same time. The number of micro-parasites introduced at the time of the injection makes probably little difference,(?) because, be they few or many, they will from their power of multiplication, in a short time, reach the possible maximum, which is determined by quite other factors than the number originally introduced. Hence a dose of 500 c.c. of ordinary recovered blood should produce less reaction than 5 c.c. of the same blood. I think myself it would produce no reaction at all, but would probably afford a passive immunity of short duration."

The point which Dr. Hunt is aiming at is—whether by repeated injections of large doses of virulent blood into an animal which has recovered from Texas fever, we would thereby increase the anti-toxic power of that animal's

blood, as was so successfully accomplished by Drs. Turner and Kolle in the case of animals recovered from rinderpest, so that the serum might be used in a similar manner along with virulent blood for inoculating healthy animals.

At the present time, as Dr. Hunt points out, inoculation with salted blood is somewhat uncertain and irregular in its action. In some instance its injection is followed by very little or no reaction, while in other cases the fever which follows is very severe, resulting in considerable mortality. To obviate these defects, Dr. Hunt proposes to try inoculation with virulent blood, and control the severe reaction which would be likely to follow by a simultaneous or subsequent injection of fortified serum.

Referring to the inoculation with virulent blood, Dr. Hunt commenced a series of experiments in order to ascertain whether the virulence of the blood is increased by inoculating from bullock to bullock when the fever is at its height. He says:—"I injected A with recovered blood; and when his temperature rose to 105° or over, I inoculated B with his blood; and when B reacted, C and so on, using in each case blood taken during the height of the inoculation fever. So far I have got to the seventh remove, and I have not had one really severe case amongst the lot, though they have each gone to 105° or over. There certainly is no evidence that the blood is becoming enforced in virulence by the continual transference."

The second point which he wished to ascertain was whether blood taken during the height of the fever was much more virulent than recovered blood, and so far the results obtained at Westwood are very favourable. It has never failed to produce sufficient reaction and has never produced a severe case. "Haylock, at Mackay, informs me that he has, at my suggestion, and with the consent of the owner, inoculated a dairy herd of 30 or 40 head with virulent blood from a typical case of natural Texas fever, and all recovered."

In connection with this experiment and others of a similar character which have been made, it is of considerable interest to note that the infection conveyed to a beast in the ordinary way by ticks is much more virulent than the infection induced by inoculation with the ordinary virulent blood. This fact strongly indicates that the ticks either intensify the virulency of the organism or elaborate some special poison.

Referring again to Dr. Hunt's statement that "the larger the dose of recovered blood injected, the less should be the reaction produced," this would appear to be so only beyond certain limits. Our experience indicates that 10 c.c. gives a stronger reaction than 5 c.c of the same blood, while 50 c.c. to 400 c.c. and over would give proportionately less. I can understand, therefore, that the anti-toxin present in a very large dose of salted blood would be sufficient to antagonise the toxin produced by the multiplication of the parasites in the animal's blood, so that no fever reaction would follow. But below the minimum dose of anti-toxin which is sufficient to antagonise the toxin produced in the inoculated animal's blood, I do not agree with Dr. Hunt that it is a matter of indifference how many micro-parasites are introduced at the time of inoculation. But more experiments are required to enlighten us on this and some other points.

There is another point of great importance. It was observed some years ago by the veterinary officers of the Bureau of Animal Industry of the United States that one attack of the disease did not confer complete immunity to the affected animal in all cases. In like manner in Australia it has been found that some inoculated cattle which have passed through a mild attack of the disease become seriously affected subsequently when exposed to tick infection. Our own experience coincides with this, in some instances, where cattle have been inoculated and subsequently taken down to the coast, where

the disease is ordinarily more severe than it is at a higher elevation inland. To guard against these second attacks, the Queensland experts are now recommending two inoculations instead of one—the first inoculation with 5 c.c. of salted blood, and from four to eight weeks later a second inoculation with 10 c.c. of salted blood, and, to make assurance doubly sure, this second inoculation to be followed fourteen days later with an injection of 10 c.c. of virulent blood.

It has to be borne in mind also that immunity is not complete until about 21 days after inoculation, so that it is not safe to place susceptible cattle on to veld badly infected with redwater until the expiration of that period after inoculation. If cattle are to be placed on infected veld immediately after inoculation, they should receive a very large dose of salted blood as recommended by Veterinary-Surgeon Dixon. The same advice applies where the disease has appeared amongst a herd of cattle on an infected farm. But, as already remarked, we require more information on this point to enable us to determine what the minimum dose should be in such circumstances.

D. HUTCHEON, C.V.S.,
*The Agricultural Journal*, the Cape of Good Hope.

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THE Edinburgh magistrates will shortly have before week a proposal to have the Chief Sanitary Inspector and Market Inspector appointed Chief Inspector under the Cattlesheds in Burghs (Scotland) Act. In regard to this proposal it may be pointed out that the Cattlesheds in Burghs (Scotland) Act has been superseded by the Public Health (Scotland) Act, and that the proposal in question would be in direct opposition to the provisions of the latter Act. The Public Health (Scotland) Act distinctly provides that all matters affecting the health of cows shall be under the charge of the Medical Officer of Health, who shall call in the assistance of the veterinary inspector wherever veterinary skill is required. The hygienic condition of the cows can only come properly under the Health Department, while the sanitary condition of the cowsheds is a matter solely for the Sanitary Department. Besides, in any case, the Public Health Act is absolutely clear as to the provision that the hygienic condition of the cows in cow-sheds shall be under the charge of the Medical Officer of Health. The proposal to place the veterinary inspection of the Edinburgh dairy cows under the charge of the Chief Sanitary Inspector is, therefore, in direct opposition to the clearly stated provisions of that Act.—*Evening Dispatch*, *26th June*, 1899.
[This matter was brought before a meeting of the Edinburgh magistrates, who decided to decline to sanction the proposal.—EDS.]

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# Obituary.

At Neworth, Kelso, on 13th July, George Hutton Scoon, M.R.C.V.S., only son of Mrs. Scoon, Kelso.

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## Communications, Books, Journals, etc., Received.

Veterinarian; Record; Bulletin of The John Hopkins Hospital; The Journal of Comparative Medicine and Veterinary Archives; The Scottish Medical and Surgical Journal; American Veterinary Review; The Public Health Journal; The Journal of the Jamaica Agricultural Society; Queensland Agricultural Gazette; Petersburg Veterinary Society's Journal; Revista Veterinaria (Vitoria); La Riforma Veterinaria (Naples); Recueil de Médecine Vétérinaire (Alfort); L'Echo Vétérinaire (Liège); Annales de Médecine Vétérinaire (Brussels); Berliner Thierärztliche Wochenschrift (Berlin); Deutsche Thierärtzliche Wochenschrift (Hannover and Karlsruhe); La Clinica Veterinaria (Milan); La Revista Veterinaria (Buenos Aires); Agricultural Journal (Cape Town); Bulletin de la Société des Sciences (Bucarest).